CURRENT NOTES

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Vol. 13, No. 6

July/August 1993
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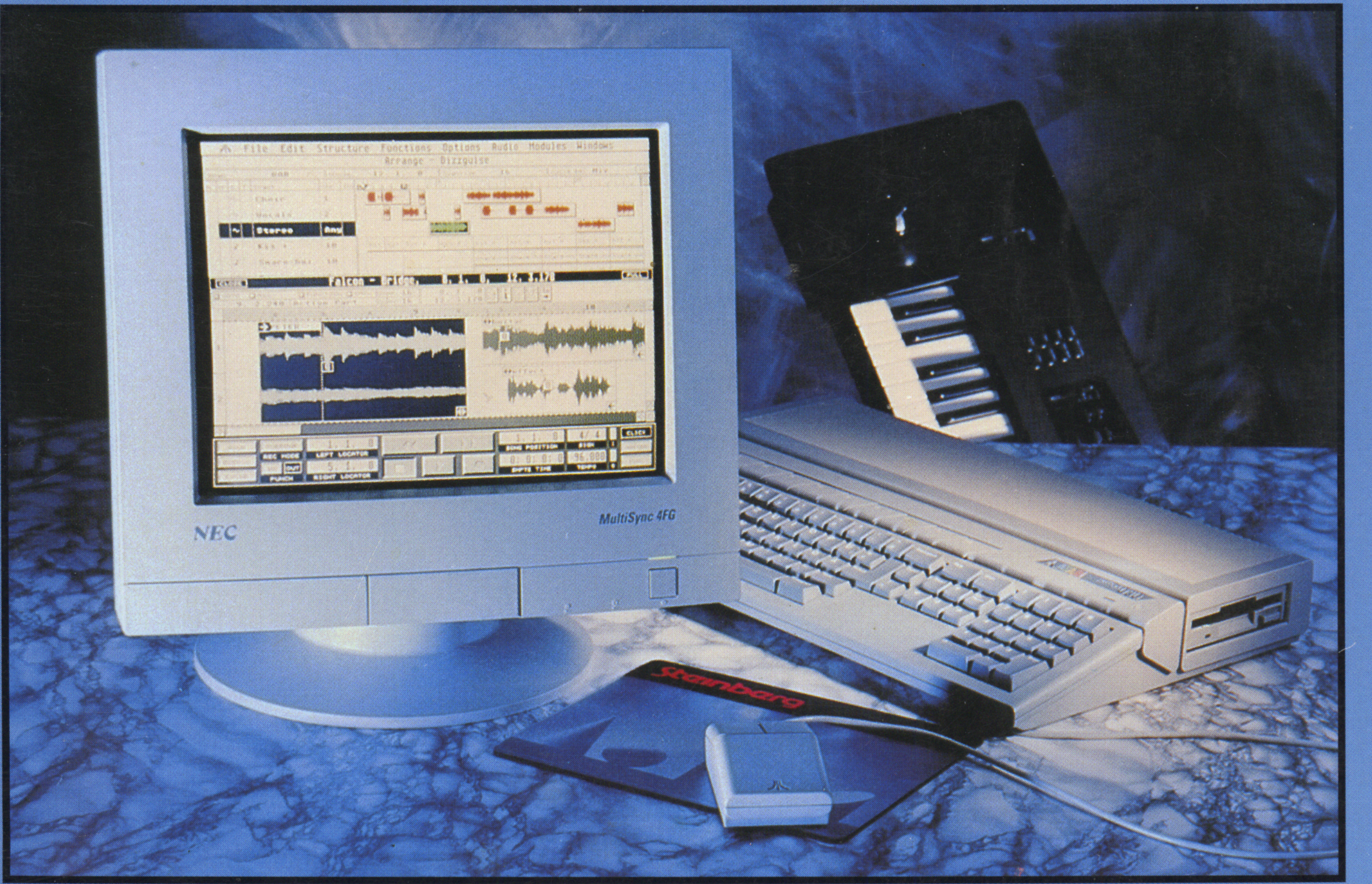

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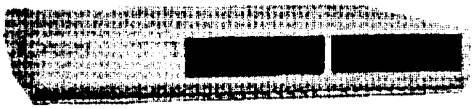

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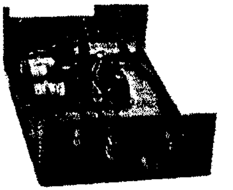

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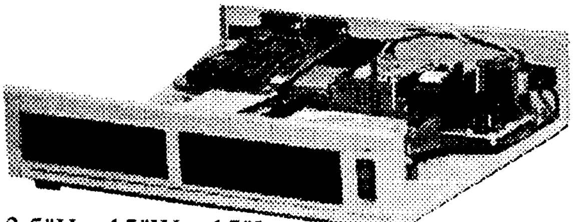

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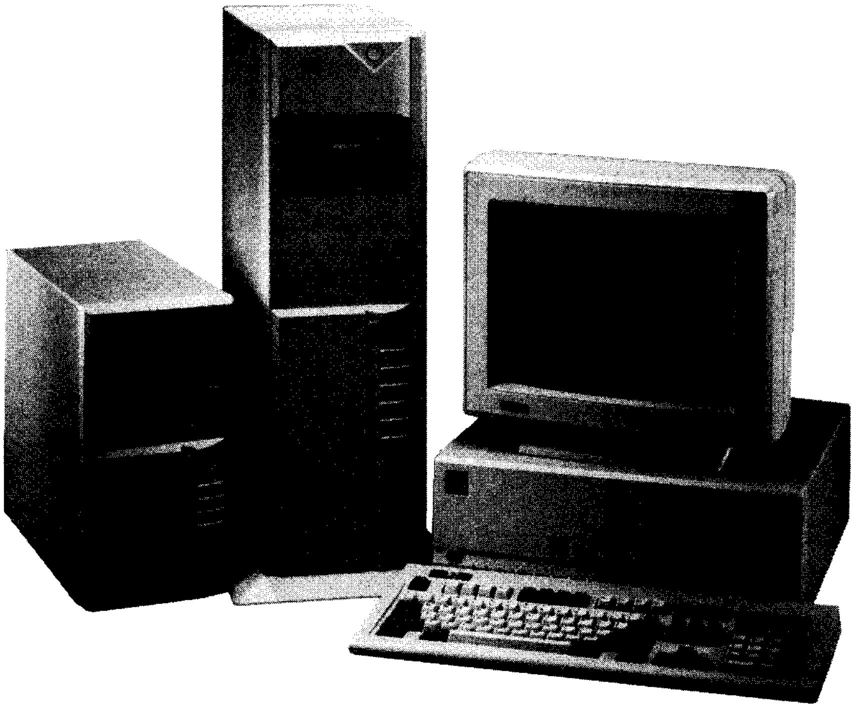

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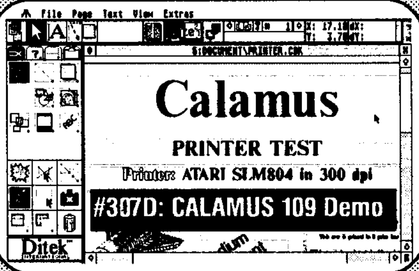
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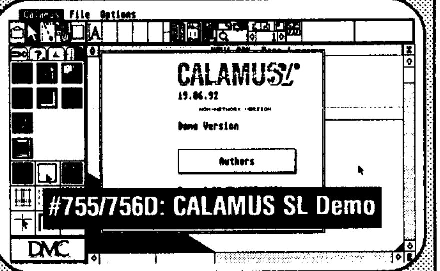
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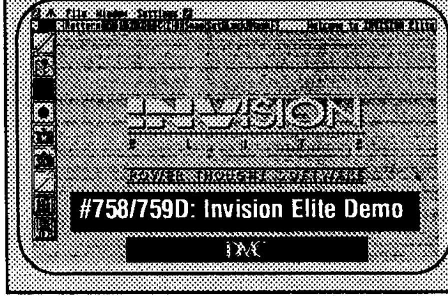
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The Cover: In addition to traditional Atari loyalists, musicians are eagerly awaiting their new Falcon030 computers since the latest Atari is designed to exploit Atari's strength in the music market.

Letters to the Editor

Pussycat to Heavyside Layer

Dear Joe,

As you and I have discussed, it is time for The Junkyard Pussycat to move on to new territories. This letter is intended to let the many readers of *Current Notes,* who have encouraged me over the years, know that I will not forget them.

I have met many interesting people in the Atari community and I have been gratified at their reactions to the things that I have written and helped to organize. There can be no bigger rush than to have a complete stranger walk up, shake one's hand, and announce how much he enjoys one's writings.

Being a recognizable fish in a small pond may, indeed, have prolonged my stay in the Atari world. I used the "Junkyard" metaphor to imply a place rich with possibilities for those who would use a little ingenuity to pick up on things that other people might have discarded without recognizing their true value.

Of late, however, my own interests have taken a different, more pragmatic, and, paradoxically, more enjoyable turn. I am currently engaged in very rewarding development work on the Macintosh II platform for my employer. The suite of development tools that is available to me on this platform, the commercial programs that are available to display my work, and the sheer smoothness of the environment from both a hardware and software point of view are just the kinds of crutches that a somewhat arthritic feline needs to get around in the world.

Back in 1981, when I first came to the Atari world, the machines possessed unique features that put them at the head of the class. In 1985 the ST represented a quantum leap forward into the modern world of computing. It is a shame that things have remained so static since then. It is no fun to hang around a junkyard where there is nothing new coming through the gates.

Finally, Joe, I want to let you know that the personal/professional relationships that I experienced with guys like yourself, Frank Sommers, Andrzej Wrotniak, Richard Gunter, Don Elmore, and many others who have passed through the pages of *Current Notes* will always provide me with rich memories.

Thanks again for the friendships.

Best Wishes
John D. Barnes
"The Junkyard Pussycat"

Some Portfolio Suggestions

Dear Joe,

I took advantage of your recent public domain disk sale and was quite pleased with a number of purchases. The Western clip-art disk, in particular, I thought presented a nicely varied assortment of well chosen and scanned pictures.

I wasn't quite so happy with *Idealist* that Andrzej Wrotniak was touting—until I discovered that I was using the wrong printer adaptation. I should have been using Idealist.Ida instead of Epson LQ.Ida. The latter incorporates a number of printer codes that are not quite the same for U.S. printers, or at least the Panasonic 24-pin printer. For some reason, tho, the page size is still defined as 11.7 inches at one point in the Idealist.ida and as 12 inches in another place. Both are wrong, since U.S. standard paper is 11.0 inches long. I'm surprised Andrzej missed this since it's rather glaring the first time one tries to print a multi-page document. But it's easy enough to load the file into a word processor and change those two values.

I appreciated the disk of Portfolio programs and hope you will consider further disks in the future for those of us who refuse to get a modem and be sucked into THAT black hole .... I had high hopes for the *Portfolio Partner* program. Unlike a lot of people, I suspect, I use my Portfolio primarily for data entry. It's small enough to be easy to carry around and work on letter, reports, etc. at odd moments. One of the things I would like to do more of is database data entry; but while the Portfolio likes to speak of its database capabilities, its Address application is simply too specialized to make a good database program and, in any case, saves only in its proprietary .ADR format.

I was hoping that *Portfolio Partner* might be able to convert .ADR files into either dBMAN files or at least ASCII delimited files which could be imported into a dBMAN file. But PortPart was designed only for creating, editing and printing .ADR files using the larger ST's keyboard. And this is good because the Portfolio's Address application is very efficiently structured for maintaining address files. I've been reluctant to move my address files off the Portfolio and into *dBMAN* because it's so easy to select cards and print up mailing lists. I so like the Portfolio's address application that I'd like to encourage its author to continue developing his program to include more of the Address applications features, like the ability to Select cards and Write Selected cards to a separate file.

While I was disappointed that *Portfolio Partner* didn't export files in delimited format, I did notice, in his notes, that .ADR files did not have any special headers or embedded control codes. Fields on a card were separated by ‹returns/ and cards separated by two ‹returns›. In which case, it dawned on me, any decent word processor could be used to convert an .ADR file into an ASCII delimited, and vice versa.

STWriter has the edge here because its use of the [Escape] key, in lieu of the [Return] key, makes it easy to both search for and to replace letters, numbers, control characters and carriage returns with equal ease. In contrast, *Word*Up* will not replace [Returns] in its replacement operation. You can use the Search operation to find them but the changes you have to make by hand. This makes room for a lot of errors. *STWriter* also has one of the fastest search-and-replace functions, something rather nice when dealing with a large file.

It takes three steps to convert an .ADR file. First load it into your word processor and search for [return][return], replacing them with some character that is not likely to be in your file, say [‹] or []. Then search for single [returns] and replace those with [,] and when that's done remember to add a quote ["] in front of the first field of the first record. Finally search for your token and replace it with ["][return]["]. This will enclose all fields in quotation marks and separate them with commas and separate records with carriage returns.

Before saving you need to edit the margins of the *STWriter* file. Change Control L to 0 and Control R to 250, then save the file as ASCII. If you don't widen the margins, *STWriter* will write [returns] into the file wherever the right hand margin is set, screwing up your file when it imports into your database.

Converting a database file into an .ADR file is just as easy. Export it as delimited, replace all [returns] with double [returns] then replace all commas [,] with [returns]. Delete the ["] at the start of the file and save as ASCII.

I wish I'd known it was so easy to convert .ADR files back when I was creating delimited files by hand in the text editor. I ended up spending nearly as much time editing the results in the DB program.

I got a big surprise browsing through Rick Reaser's 8-bit column when he mentioned a great PD 8-bit program from Todd Bake. I know a Todd Bake through the local SF club but never suspected that he'd written programs for the Atari 8-bits before. Glad to hear that it's a well regarded program.

Regards,
Brian Earl Brown
Detroit, MI

And More MIDI Advice

Dear Sir or Madam,

As an amateur musician for a number of years, I read "MIDI on a Budget" with great interest. I take issue with a couple of things in the article and have some other suggestions.

First, Gary Woods writes, "For a controller, I prefer one that doesn't make a sound." I disagree. Many keyboard synthesizers respond to local off; this is a MIDI message that allows the keyboard to send key messages to a computer sequencer or other MIDI device while not playing those sounds. Also, some synthesizers, especially multi-timbral ones, allow for voice allocation, i.e. determining what MIDI events play a given sound, and if a given sound should play from the keyboard, MIDI or both. In my experience, it saves money to buy a keyboard combined with a sound generator, so local off can allow you to use such a device as a keyboard for your system.

Gary later writes, "To make up for the lack of a weighted keyboard, part of the MIDI specification allows for the transmission of what is called Velocity Data." But, Velocity Data is how weighted keyboards transmit how hard the key was struck. There are other data available for touch-sensitive keyboards, but velocity is the main value used by most sound generators for controlling patch sound and loudness.

Gary should, I think, really stress the sequencer portion of a computer music system. You will use this part more than any other in your music creations (unless you like manipulating sound from the sound generators directly), so it is very important to pick a tool you like. I use Dr. T's *Tiger Cub* and really like it. It has all the features I saw listed for *Cubase Lite* and is cheaper, also. My suggestion is that anyone looking to get into the ST music hobby try out demos of each program of interest and see which one works best for your habits.

As for sound generators, I would suggest seeking out sources of used in-

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struments. My home "studio" is stocked with used equipment mostly and it works well and saved me a lot of money. If you want to play out-of-the-box sequences, then General MIDI or a Roland MT-332 device is a good choice. Otherwise, you might be well off choosing a synthesizer that you can eventually program for new sounds or a sampler that you can load new sounds into. If you do that, you will eventually want to find a patch editing/librarian program for your synth, or perhaps a general MIDI organizer or or ...

Thanks and have fun.
Bob Hayes
Chicago, IL

Will an Accelerator Help?

Dear Joe,

Thanks for your help a few months ago on the hard drive. I now have a new Toadfile and I recommend it highly.

I have another question for you, or one of your technical guys. I am working on a large text file (over 100 pages) on *WordPerfect*. I might as well go out for coffee when I move from one end of the document to the other. Will an accelerator help me? I know a blitter chip will not, since that only speeds the redraw time on graphics (or so I have been told).

I am using a 520 ST with 4 megabytes of RAM.

Paul Adkins
Ft. Leonard Wood, MO

Dear Paul,

I have a Mega ST4 with the ICD Adspeed installed. Testing a 161 page *WordPerfect* document, it took about 45 seconds to move from the top to the bottom of the document running at the 8 Mhz speed. When switched to 16 Mhz, that same operation took 30 seconds. Similarly, saving the document to disk took 100 seconds at 8 Mhz, but only 64 seconds at 16 Mhz. Just moving the cursor down a page at a time until the bottom of the document was reached took nearly 3 minutes at the slow speed, but less than one and a half minutes at the faster speed. So, it looks like adding an accelerator will, indeed, help. By the way, all of these tests were undertaken with *Warp 9* installed.

Joe Waters

Looking Forward ... to Large Amounts of Beer

Dear Waters Family,

Wow! I sent in my subscription in early March and received my first magazine in late March! You folks should start handling subscriptions for some of the other magazines.

David Barkin's "A Darkroom on Your Desk" was just the article I had been looking for (re: scanner programs, *Retouche* CD, cheap Macs w/PhotoShop).

I'm looking forward to his article on drinking large amounts of beer. I'm interested in whether his experience with that product will be similar to mine.

He mentioned *Style* by Zocra for contrast control, etc. I have been using it for file interchange. I wish it handled 24-bit TIFFs from Photo CDs. I also recently got *TruePaint* from HiSoft/Oregon Research. I found it works nicely in the TT extended gray scale mode for altering gamma by substituting different gray palettes, when I can get the original palettes to be ordered by brightness.

Keep up the good work.
Jim Hood
Concord, CA

Thanks for XE Support

To Mr. Waters and all at CN:

I will GLADLY re-subscribe to *Current Notes*, due to the continued support of the XE platform. I can't say this for other magazines, such as *AtariUser*, which only pays lip service to 8-bit support. This will be my second year of *CN*, and I now wish that I had subscribed earlier. I only saw the (then) two current issues when I went to Toledo to an Atari dealer last year to get a 520ST fixed for my boss (we use PCs, C-64s, a 520ST, and Amiga 500, and an XEGS). I bought them and subscribed immediately upon seeing the many articles for the XE. I'm a rather progressive 8-bitter, my current system consisting of: a 130XE with the OmniView XE chip (this letter was written with Omni-Writer 80), twin XF551 drives (with CSS XF Updates), and XEP80 (I also use Atariwriter 80), a 410 Program Recorder, a SupraModem 2400 Plus (v.42bis & MNP5), and XMM801 printer (which I use with a registered copy of DD3 for NLQ), an Amiga 1080 Y/c monitor (super sharp picture!), SpartaDOS X, R-Time 8, Express! cartridge, Diamond GOS (with a mouse), Action! and BASIC XE. As you can see, I have absolutely no plans to abandon the Atari 8-bit platform. As such, please keep up (maybe even expand) the 8-bit support, as I would say the ownership of 8-bit systems equals or exceeds that of 16/32 bit systems.

Please tell Rick Reaser that he is doing an EXCELLENT job (Keep it up, Rick!). I'd like to see some information on the CSS Multiplexer; whether or not a Syquest 44 or 88M drive can be used in conjunction with the Black Box (next big purchase—a hard drive!); and if so, the probability of an 8-bit CN Cartridge (44M Syquest). I'd also like to see what's available in terms of memory/speed upgrades (I also have a 400, and 800, and another 130XE (Lima/Findlay/Dayton Hamfests/Computerfests!)), and also whether *Diamond GOS* creator Alan Reeve or *GOE* creator Dave Sullivan are still developing for their respective GUIs. I'm also interested in knowing the details of, and how I can get a copy of, the new language *Quick*, and whether it is cartridge or disk based. Also, I'd like to know the current status on ICD's 8-bit products, and whether they have been taken up by another developer. Please send him my congratulations for the new additions to his family!

The Atari XE's future appears to be on the rebound, slowly but surely, and we must not let this opportunity pass us! Thank you very much for your fine magazine!

Atarily,
Bill Core
Pandora, OH

My Atari Gives Me Everything I Need

Dear Joe,

Congratulations on your subdued response to Jan D. Wilt. Also for your policy of writing for Atari owners ... after all, we're the ones placing the subscriptions. But, I wonder why publishers of magazines for Atari owners print all those articles *against* Atari and with all the writer's reasons for shifting to some other platform? It sounds like they weren't convinced themselves and are just trying to justify their decision.

I own an Atari Mega ST with 4 megs of RAM. I enjoy word processing and desktop publishing. My machine does a fine job with both. I have a pretty good investment in hardware and in software. Each month as I peruse the several Atari specific magazines I subscribe to, I see ads for hardware and for program improvements, as well as for brand new programs being offered.

So what if the IBM platform offers MANY more programs? The programs I have now are doing everything I need to do. Sure, IBM compatibles are finally catching up to the capabilities Atari has had all along. Is that a reason to switch? It seems to me that those complaining most about the demise of Atari are interested in having only the "latest," and not in how well their needs are being met with what they already have. It also amazes me how so many computer owners utilize their expensive machines primarily for playing games! The local bulletin boards verify that.

The electronics industry has made mind-boggling advances in a very few years. I fully expect to see many more such improvements continuing. That miracle machine purchased today will be as obsolete as many seem to think Atari is now in a very short time. Who knows, the Falcon may even tempt me to upgrade, especially if they come out with a Mega-style detached keyboard. At this time, I can't conceive of ever being interested in the IBM platform. Possibly the Macintosh would be my replacement if my Atari failed to perform the tasks I demand of it. At least for the time being, I am grateful that you and a few other publishers continue your loyalty to Atari. I will reciprocate by remaining loyal to you.

Yours truly,
Raymond F. Arthur
San Jose, CA

Atari's Under-Utilized Laser

Dear CN,

I have an Atari SLM605 laser printer, and I am very happy with it and my Atari computer. Recently, I purchased an IBM compatible notebook computer for use while I am away from home, and for work. Is it at all possible to use the SLM with the notebook? I understand that the Atari uses the DMA port for data transfer. I was told by a friend that all I needed to do was to attach a serial port to it, and it would work. I have also heard that the 605 is essentially the same as an Epson EPL-6000. I have written Epson regarding this matter and they said that they had nothing to do with the Atari Laser and I should contact Atari regarding this matter, and since I have heard horror stories about Atari's customer service, or lack of it, I would probably grow old waiting for a response. It is a shame to have a $1,000 laser printer sitting right here on my desk, still having to use my old dot matrix to print out Lotus 1-2-3 worksheets. Can you or anyone out there help me?

Sincerely,
Roy Barr Jr.
Orangeburg, SC

Dear Roy,

Although I don't have an SLM 605, I do have several SLM 804 laser printers. They, too, work only with the Atari

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computer and *not* with other computers. Atari has never indicated any way that the SLM printers could be used by other computers. Unfortunately, they can't be used with the new Atari Falcon either. Just imagine, if a board or a kit could turn those printers into standard laser printers, they could be used with a variety of machines. Since they don't work with the Falcon, one might suppose Atari would have an incentive to provide that modification; but don't hold your breath. Perhaps a third party developer will find a solution. If any readers have found a solution, let us know.

Joe Waters

Atari, Get Out the Weed-Killer!

Dear Joe,

Here is my subscription renewal—yes another year with *Current Notes*, and still holding on to an Atari Mega 2 by my raw, bare hands. Hopefully, the coming year will see some brightening at the end of the tunnel for those of us still loyal to the Atari platform. Sitting out here in the weed-patch (computer-wise) without a weed-cutter, continues to be difficult. Hopefully, the great-ones in Sunnyvale will soon ride in with the big John Deere Combine and rescue us—and themselves—from the impending overgrowth of the MS-DOS thistle. (Sounds like a scenario that might make a good computer game.)

Admittedly, I have weakened. I needed a good, lightweight, laptop with a good backlit screen, and my friends at Atari couldn't supply one. So, I fell off the wagon—one foot down. Then, along came WordPerfect with an offer I couldn't refuse—a competitive trade-up to *WordPerfect 5.1* for DOS from my Atari version. OOPS! There went the other foot.

Thanks to a CN article sometime back, I now have a multsync monitor that I switch between the Atari's less-than-CGA color, mono for graphics, and the laptop with full VGA in living color. I do the same with my printer. I'm still hanging on with *PageStream* 2.2, *Superbase Pro, PHA$AR, Drafix* and a few other goodies I can't yet match for my VGA-capable laptop, but failing fast.

I have a sign on my computer-room wall that I got from a PCmagazine that says "I LOVE DOS" with LOVE indicated in the shape of a heart. I have added a cut-out in the shape of a dagger, plunged deep into the heart of DOS. But, despite my abhorrence, I've learned to tolerate DOS so I can try all the new, frequently up-graded, improving goodies it allows me to sample.

Atari, please! Get out the week-killer! Man the John Deere's! Plant the seeds! Spread the chemical fertilizer, not the manure you have been using! Can't you rescue us from this DOS weed-patch? Or do I have to start eating Apples?

Sincerely yours,
Douglas J. Van Sandt
Medford, OR

Disappointed with Soft-Logik

Dear Current Notes,

I'm the proud owner of a 1040 STF, with the TEC system upgrade and a 2.5 Meg memory upgrade. My primary use of the ST is for freelance writing and music composition. But I also like to dabble in desktop publishing.

Further to that, I was upset to read in Steve Kiepe's column about Soft-Logik's intention to weasel out of their continued development of *Pagestream*. As he suggested, I have written to Soft-Logik directly, telling them how disappointed I am in their lack of support. After all, their slogan inside the manual is "We Give You The Tools To Dream." I hope whoever came up with that line is cringing at their current hypocrisy! Like Mr. Kiepe, I have stuck with Soft-Logik from its early and bug-ridden days when the software was known as *Publishing Partner*. It's sad to think that we may now be left out in the cold.

Mind you, the future of ATARI doesn't fill me with a lot of optimism either. I read about the "soon to be available" Falcon. But then, you've got stories about more delays.

I've been happily using my ST since 1986. And I'm definitely interested in moving up to another, improved member of the ATARI family, while keeping my old ST for my stepson's personal use. But listen up Sam Tramiel, I can't buy thin air! And with MAC prices coming down, and their shared compatibility with DOS software, I could be another ATARIAN to go where the hardware is solid.

In the meantime, *Current Notes*, keep up the good work!

With best regards,
Terry Glecoff
Mississauga, Ontario

Computerized CAMARO Possible

Dear CN,

I couldn't help noticing the letter in the last CN titled 8-bit Camero not feasible. First of all Camaro is spelled with an a, not an e. Secondly, what planet does this person live on? He has 200 years of experience maintaining an automobile? I think he just overdosed on Hot Rod Magazine.

There are many data loggers and computer devices available now to do what Mr. Small spoke about. The Racepak unit put out by Kenny Bernstein and the Cygnus unit come to mind. Although most of these units simply dump to a printer or your laptop computer, they can give you a great insight as to how your car is performing.

It is obvious that Mr. Brownlee doesn't know everything since if he lived in a climate colder than that of California he certainly would not be using straight antifreeze, a mixture of 50% water and 50% antifreeze is a much better combination.

As for the veteran drivers who make race car drivers look like wimps because they have no safety devices installed on their cars, I suppose they could be veterans of the morgue. This is just total hogwash.

It appeared from the article that Dave Small wrote that he had a decent shop install an LS-6 454 engine in his Camaro. Most of the street trash running around nowadays would be hard pressed to outrun Mr. Small's vehicle.

No offense meant to Mr. Brownlee, but a trip to the nearest racecourse or dragstrip would perhaps be in order. Like the old saying goes, if you think you have a fast car, bring it out to the track.

Sincerely,
Vern Bolton
Cashflow Racing
Artesia, NM

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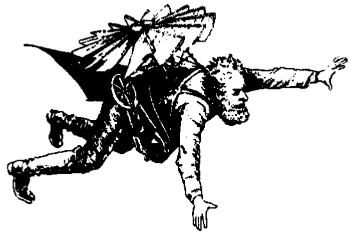


by Steven Kiepe

Connecticut AtariFest!

Ah, spring is in the air in New England and the sun's warmth is finally drying out the intrusive wet winter cold, which blanketed the region for all too long. And with spring's arrival, the annual computer show season has kicked off and was led this year from Windsor Locks Connecticut, home of the Connecticut AtariFest.

This year's show was held at the Windsor Court Hotel on June 12th and 13th. The show was organized by the Affiliated Connecticut Atari User Groups (ACT) and featured booths by developers, user groups, local and distant dealers, and others. Concurrently, the Connecticut Home Office and Entertainment Expo was held in the same conference center, demonstrating a range of products and services for the small businessman. Show organizers were hoping for a crowd of around a thousand to appear on the scene, and with the promise of plenty of Falcons to demonstrate and some to sell, all conditions seemed to be set to make it a great affair.

Pre-Show Controversy

The events leading up to the show were prefaced by controversy over Atari's refusal to allow non-local dealerships, such as Computer Studio from Asheville, N.C., to sell the Falcon at the show. Initial whiplash on the on-line networks was largely against Atari's decision, especially as there was little apparent dealership support for Atari in the Northeast. Some fast work by Atari Corporation and others resulted in the promise of at least two dealerships to attend, both authorized to sell Falcons at the show, and both promised at least a smattering of retail sales stock. According to Atari spokesman, Bob Brodie, in his 4 June RTC on Genie, the authorized dealers were Computer Zone of North Attleboro, Massachusetts and East Hartford Computer Repair (EHCR) of Hartford, Connecticut.

Saturday, 12 June dawned with both stores without their show stock. On the previous day, conversations with Bob Brodie resulted in a flurry of activity at Atari in an attempt to make sure the show was supported as promised. Computer Zone's four Falcons had already been shipped with a planned pre-show delivery but this appeared to be delayed. Bob Brodie arranged for shipment of four additional Falcons for Computer Zone directly to the show via Red Label express shipment. At 9:30 a.m. Saturday, a UPS truck arrived to the great relief of show organizers.

One Falcon Dealer Grounded

The second authorized dealer ran into a significant internal snag within the Atari management hierarchy and was left high and dry. On Friday, Bob Brodie promised that Tom Allard of EHCR would have his Falcons "...even if I have to ship them FEDEX out of my own pocket." But on Saturday, there were no Falcon's delivered for EHCR.

The Connecticut AtariFest was not an Atari "sponsored" show. There was no Atari corporate representation or direct corporate support for this show. The show organizers, in an attempt to get some Atari representation, had extended an invitation to Mr. Paul Cullity, the Atari representative for the Northeast region. Further, they report that they had made this known to Atari corporate headquarters months before the show, and tried to determine if any further support would be forthcoming. A booth was held for Mr. Cullity (who did not attend). They also tried to arrange for a live satellite hookup to Sunnyvale but were unable to get concurrence from Atari. In the attempt to get Atari sponsorship, the show's organizers may have set the stage that precluded EHCR from getting Falcons.

Computer Zone's Atari Falcons arrive Red Label shipping at 9:30 a.m. Saturday morning.

As a consequence of the invitation and other groundwork, Mr. Cullity apparently became aware of EHCR's impending receipt of Falcons for the show. Although Mr. Cullity is primarily music oriented, as the Atari representative for the Northeast, he seemingly expected a commission, although his only previous involvement with EHCR was a phone call of introduction a few days prior to the show. This "twist," coupled with his indecision about accepting EHCR as an authorized dealer (did the shop meet Atari's standards?), caused Atari's Gary Tramiel to hold up shipment of the Falcons. Tom Allard did not become aware of the situation until after noon on Saturday, long after he noticed a distinct lack of Falcon's at his booth. As of today (14 June) Mr. Allard is still waiting for "official" notification that his application has been deemed "acceptable" by Atari management. This is especially noteworthy when considering Bob Brodie's RTC comments only eight days pre-show.

Tom and his wife made the best of a bad situation by providing hardware upgrade service at the show, as well as offering software and accessory packages. I don't believe Tom was able to put down his soldering iron after about noon on Saturday. He told me that although he lost his anticipated sales at the show, he has one confirmed order for a Falcon, if and when he becomes an approved dealer, with interest expressed by many others.

Falcons Take Flight

Despite the problems encountered by EHCR, Computer Zone took good advantage of its four Falcons and rapidly sold all four, within two hours of show start. That is more remarkable in that their booth was almost an hour late getting set up! Further, the four Falcons that were originally shipped by a slower means were sold Monday. There were at least eight more happy New England Falcon owners than there were Friday night. All indications are that at least double that number could have been sold had they been available. Computer Zone also offered attendees a full selection of Atari software and magazines.

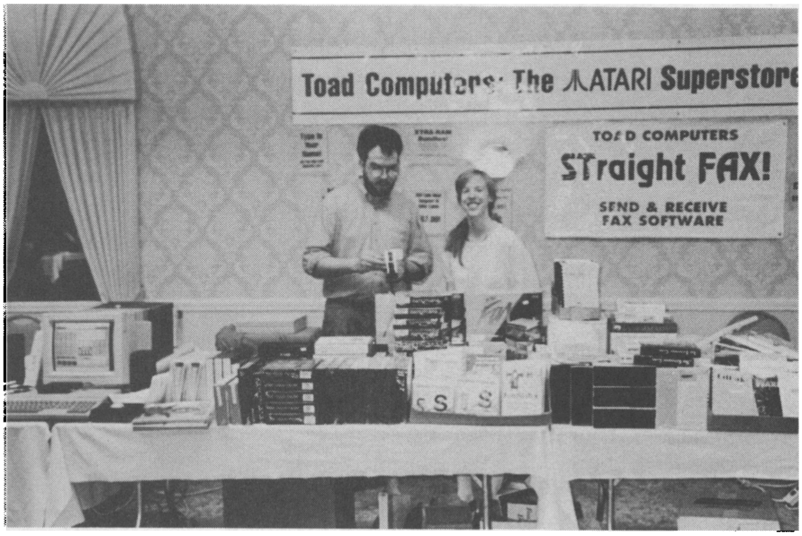
Attendance Figures

The AtariFest was attended by around 600 people, down slightly from the previous year. Despite this, there was a fair amount of material on-hand to greet attendees. Brian and Angela Gockley, Doug Finch, and all of the other organizers and user group members are to be congratulated for their efforts to make this show a professional one. The attempt to broaden the base of attendees by combining this show with the Connecticut Home Office and Entertainment Expo was, although of limited success, a good try at bringing new blood into the fold and attracting users from outside the traditional group. Brian Gockley noted that almost half of the attendees appeared to be new faces compared to last year's show. Whether this is a sign of renewed interest in Atari computers is hard to tell, but the show organizers certainly had a lot of competition from the beautiful spring weather over the weekend.

Show Highlights

The various developer and user group booths sported seven Falcons and numerous TT/Mega STE's running recent release and prototype hardware and software. Developers running the latest demo's and products on the Falcon included Codehead showing the Falcon version of *Warp 9* and the recently released *MidiSpy*. Frank Pawlowski of Straight Edge, developer of the *Outburst!* print accelerator showed a pre-production version of *TrueView*, a video graphics screen grabber that captured and displayed 640x480 color shots on the Falcon. He was attempting to determine the market interest toward his further developing and producing this product, which will probably market in the $400 to $500 range. Lexicor Software had a booth and Yat Siu of Lexicor Europe was displaying and selling the new Nova video boards imported for the Mega ST/STE, TT, and Falcon. Lexicor was also displaying a prototype "video roaster" (watch out Amiga fans) as well as their full line of *Phase 4* animation and rendering software.

ABC Solutions demonstrated *tbxCAD*, *FirstGraph*,


Toad Computers: The ATARI Superstore
TOAD COMPUTERS
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Alex (Toad Music) and Jennifer Troy (Toad Computers) did a brisk business at the Toad Computers booth.

Home Accounts, and other software packages. I had never considered CAD programs applicable to the average man on the street but they made a believer out of me. Peter, my check is inbound. Doug McCasland was demonstrating his *Marcel* word processing program to interested onlookers. *Marcel* is a low-cost, high performance word processing program for students, general writers, and others who don't need the features of programs that cost several times as much. Gribnif Software was offering terrific deals on their line of software including the Crazy Dots video card, *NeoDesk 3*, *STalker 3* and *STeno*, *Arabesque*, *Convec tor*, *Cardfile 4* and others. Oregon Research was demonstrating *TruePaint*, a paint package aimed specifically at the Falcon but which can be used on virtually all 680x0 based Atari computers. They were also fielding many questions on *Diamond Back II* and *Diamond Edge*, as well as when to expect the release of *Diamond Back III*. I succumbed and bought a copy of *ProFlight*, the best flight simulator I have ever seen on an Atari computer (take that as a professional pilot's recommendation–and I hate simulations)!

Barefoot Software's Jeff Naideau and Dana Byrd held court in a center booth that was well stocked with Hybrid Arts software, *Midiplexer*, and lots of other MIDI equipment. In my total ignorance regarding the MIDI field, I'm afraid I can't do justice to any of the products they showed. Similarly, Kurlan Music and Mach 1 were demonstrating MIDI products; additionally, Kurlan Music is also authorized to sell the Falcon (but did not do so at the show).

BagettaWare was showing the *EllieMouse Complimentary Coloring Book*, capturing the interest of the younger set who were enthralled with the program. This program is now multilingual and has available an extended set of pictures for coloring. Wizztronics was showing their *CartMaster* multi-cartridge adapter on a Falcon, proving its applicability to the entire ST/TT/Falcon line. Additionally, they were offering the *Cartright* cartridge port extender in both assembled and kit versions, *Compatibility Plus II* TOS upgrade card with dual TOS switching capability, and a new product, *Stowaway Professional*, disk labeling software that currently supports dot matrix printers with further enhancements anticipated.

Vendors Do Well

Two booths that were constantly busy were the vendor booths of Toad Computers and Best Electronics. Jennifer of Toad and Alex of Toad Music were in continuous action from door opening through the close of the show. Alex kept the MIDI crowd entertained while Jennifer kept up a large volume of activity with the wide range of software and hardware products at the Toad booth. It was a real pleasure to get to meet them, they are some truly nice people. Brad Toda of Best Electronics had, as always, civilization's most complete selection of Atari parts. I could be wrong but I suspect that even Atari purchases replacement parts from Best!

Doug McCasland proudly demonstrates his Marcel wordprocessor.

Clear Thinking/EdHak ran a booth demonstrating both the exceptional *EdHak* editing program now at version 3.0, as well as a side program, the *Metapsychology* primer. I took the test and looked at my resultant personality graph–pretty bleak here folks! I expect to be committed in the near future. Sharing a booth was Trace Technology, demonstrating *Data Diet*, *Squish*, and a new program, *BlitzSchnell* (lightning fast), which may hold the record as the fastest of all hard disk optimizers for the ST. Nearby was MegaType, with a large selection of fonts and graphics for *PageStream* and *Calamus* desktop publishing programs. Soft-Logik maintained a demonstration booth with *PageStream* running on a TT with large screen monitor. A&D Software was well represented by Brian Gockley and crew, with *ST Informer* and A&D's full range of products readily available.

Local area software vendors were offering fantastic deals of new and older Atari 8 and 16 bit software packages. Software Spectrum and Evangelo's Software from New Jersey, and Derric Electronics from Hamden, CT offered some amazing packages, which were rapidly snatched up.

Some specialty tables were set up as well. Thin

Air Labs showed the Portfolio with hookups to the Stacy and also to an external portable hard drive. There was a large Lynx gaming area in the back of the hall running a six player comLynxed pre-production version of *BattleWheels!* This game really grabbed the attention of all players, although my life expectancy was very short. Genie offered on-line sign-ups for all interested and CompuServe took the names of potential users and passed out information on how to go on-line.

User Group Participation

No AtariFest could be complete without the Atari User Groups, especially one that was solely organized and supported by the same. The Boston Computer Society, Western Massachusetts Atari User Group, Atari ST and Mega Users of Montreal, South Shore Atari Group, Atari User Group of Greater Hartford, Scranton Area Atari User Group and Long Island Atari User Group all had booths. Most user groups offered many demonstrations, public domain disks and some great clip art collections, with most of the groups offering "recycled" hardware and software items. The South Shore Atari Group featured Klaus Schultheis of Dongleware, the shareware distributor for *OXYD* (reviewed last month). *OXYD* disks were selling fast and the game seemed quite addicting.

Final Analysis

I had mixed emotions over this show. There were a lot of interesting products and some exceptional deals but the lack of Atari support really showed. The inability of East Hartford Computer Repair to obtain the promised Falcons started off on a negative note but the participants really made the effort to make the show work. Ultimately, over half of the Home Office and Entertainment Expo booths closed up on Saturday, not to return. It was obvious that a great deal of work went into the preparations for the show, and the organizers and user groups are to be congratulated. Now that we have gotten over this initial hurdle, hopefully the year's remaining shows will go a bit smoother. Well done and thank you to all those involved.

Other News

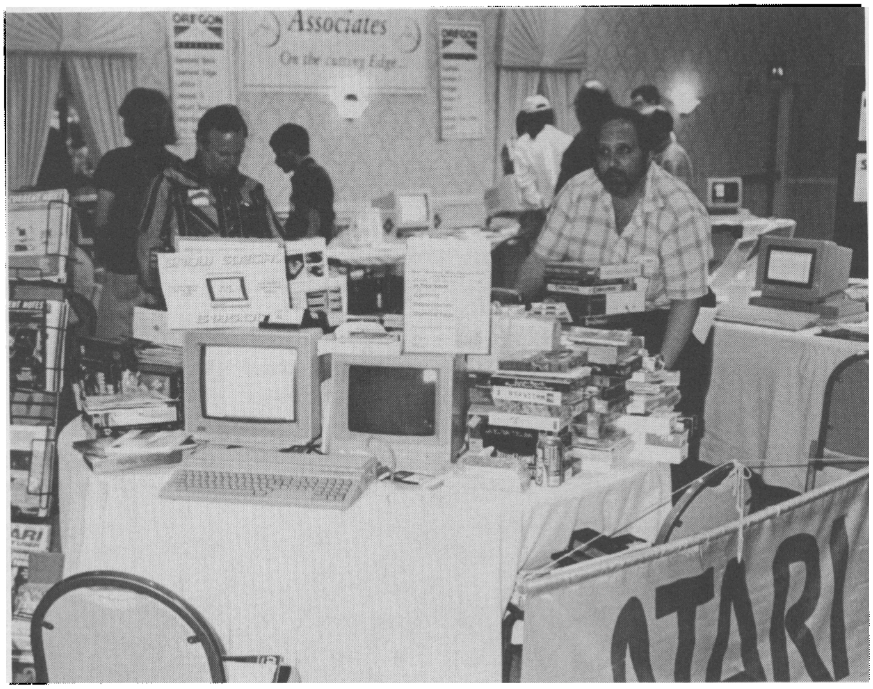
The first lucky owners of retail sale Falcons were pleasantly surprised to find 84 megabyte hard drives in their new computers instead of the expected 65 MB drives. Mr. Brodie noted that this will be the standard configuration in all future Falcons, and that the change in configuration did not result in increased cost to the consumer. Great News!

Next, Atari Corporation announced its intention to launch the Jaguar 64-bit game system sometime late in 1994. This system is expected to have many times the capability of the best that the market currently has to offer, and should have extensive multi-media capabilities. The system is not intended to replace the Falcon line of computers, although it will be equipped with a DSP chip. It is expected to retail for around $200.

Atari Corporation stock started showing signs of improvement right about the time Falcons began to appear in the U.S. The stock improved from a low that hovered around $1.00 to a high at 2 and 7/8 soon after the Jaguar announcement. As of close of market on June 18th, Atari stock was at 2 and 3/16. Although this is only a small percentage of Atari's value in its heyday, the recent climb, after such a long period of dormancy, may be an indication of increased faith by shareholders.

Final Plug

This month we have another installment of the Creative Solutions column on the professional uses of Atari computers. Each story tends to lead to another, showing the previously unknown uses to which creative and dedicated Atari users have driven their machines. The capability of Atari computers is far greater than many users realize. If you have a story you'd like to share with the rest of us, please write, send E-Mail or call us. We'd be glad to hear from you!



Computer Zone loads its booth up for the start of a busy Saturday.

Hot Summer MIDI Specials

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K1-II Digital Synthesizer. 16-Voice Digital Sample & Wave Synthesizer, 8 Instrument Multi-Timbrel Capability, Digital Effects, 61 note Keyboard with Velocity & After-Touch, Pitch Bend and Modulation Wheels, Drum Section. **$599.00**

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Demo Equipment Clearance:

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K4r 16-Voice 16-Bit Digital Sample & Wave Synthesizer, 6 Individual Outputs, Fully Programmable Drum Section, 8 Instrument Multi-Timbral Capability, Rack Mount Design. **$499.00**

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Blue Ridge AtariFest '93

Computer Studio and the Blue Ridge Atari Computer Enthusiasts invite you to the Fourth Annual Blue Ridge AtariFest to be held

Saturday, July 24th from 10am until 6pm
and Sunday, July 25th from Noon until 5pm

at the Westgate Shopping Center in Asheville. The show will feature exhibits and demonstrations by major computer hardware and software developers. Specialized seminar sessions on a variety of computer related topics will also be conducted throughout the afternoon.

Registration is $3 in advance, $4 at the door.

Additional information is available at

Computer Studio
phone (704) 251 – 0201

the Blue Ridge AtariFest Topic on GEnie
(Atari Roundtable, Category 11 Topic 13)

Computer STudio - Blue Ridge Atari Computer Enthusiasts

Blue Ridge
AtariFest
'93

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Blue Ridge AtariFest '93
Guest Registration Form

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Return this form along with registration payment in the amount of $3 per person payable to:

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Westgate Shopping Center
40 Westgate Parkway - Suite D
Asheville, NC 28806

Atari Industry News and Announcements

New Products

DATAlite™ 2 Available

Oregon Research Associates is pleased to announce the addition of *DATAlite™ 2* to our line of high quality software for the Atari ST/STe/TT/Falcon030 line of computers.

DATAlite is a sophisticated, powerful program providing real time online data compression for floppy and hard disks. Amazingly fast, you will never know it's installed. *DATAlite* transparently doubles the storage size of your disks.

DATAlite is completely safe and reliable. It works its magic as BIOS level device driver completely transparent to the system at the disk level. It does not patch any GEMDOS calls or interfere with the file system in any way. Incompatibilities are impossible. All you know is that your 50-meg hard drive is now a 100-meg hard drive! WOW!

DATAlite™ will be available in late May with a suggested retail price of $79.95. For more information, please contact: Oregon Research Associates, 16200 S.W. Pacific Hwy., Suite 162 Tigard, OR 97224. Phone: (503) 620-4919, 1-5 p.m. PST M-F; FAX: (503) 624-2940.

NVN Adds Atari ST Forum

National Videotex Network (NVN) has recently added an Atari ST Forum to its growing lists of available services. The Atari ST Forum is ready and waiting for you!

Most of the NVN Basic services are available 24 hours a day with no connect time charges beyond the basic membership fee. However, a select group have functions for which transaction fees are charged. Basic services are accessible through a flat rate charge of $5.95 per month.

For Premium services, members pay connect charges for the amount of time in a particular services. Premium services are accessible Monday throguh Friday for a connect time charge of $9/hour from 8 am to 6 pm (central time zone), and $6/hour from 6 pm to 8 am; and on Saturday and Sunday for a connect time charge of $6 all day. 9600 baud access is available at no additional cost!

For more information about either of these plans, give NVN a call at 1-800-336-9096. You can join NVN one of two ways. By voice phone 1-800-336-9096 (Client Services) or via modem phone 1-800-336-9092. You will be issued an Account # (usually within 24 hours.) National Videotex Network and the Atari ST Forum will be waiting for you.

Product Upgrades/Updates

Fair Dinkum Ready for Falcon030

Los Alamos, NM - Fair Dinkum Technologies has announced the immediate availability of Falcon030 compatible versions of its entire product line... *Crossword Creator II* ($34.95), *Word Search Creator* ($34.95), *Puzzle Pack* ($49.95), *The Cryptographer* ($34.95), and *Cyberdrome-The Hoverjet Simulator* ($39.95). Program functionality remains unchanged from previous versions. Upgrades are available to registered users only for just $5 plus original disk and SASE or $8 without disk or SASE.

Also available now is the *Cyberdrome* DUO-PACK, a specially priced bundle of two complete *Cyberdrome-The Hoverjet Simlulator* games in a single package. Designed especially for those desiring to experience the excitement of *Cyberdrome's* 2-player/2-computer mode, the DUO-PACK includes two program disks, two manuals, two keyboard layouts and two separate warranty registration cards all in one value-priced package at just $59.95, representing a savings of nearly $20. The *Cyberdrome* DUO-PACK is available only directly through Fair Dinkum Technologies.

Demos for any product are available for $5 each (deductible upon purchase). Special offers are frequently available for user groups and qualified educational institutions. For more information, contact Fair Dinkum Technologies, P.O. Box 2, Los Alamos, NM 87544, phone (505) 662-7236, Fax (505) 662-3787 or on GEnie at FAIR-DINKUM.

DMC Announces Pagestream to Calamus SL Competitive Upgrade

Effective immediately, DMC Publishing will offer owners *Pagestream 2.0* and above, the option of also obtaining *Calamus SL*. You keep your copy of Pagestream, while expanding your possibilities with *Calamus SL*.

If you choose to participate in the DMC upgrade offer, you will receive a complete package of *Calamus SL*, be automatically fully registered and eligible for any and all future upgrades. This offer will run until August 31, 1993, so order your copy of *Calamus SL* today. You will be really pleased that you did.

* UPGRADE OFFER–*Pagestream 2.0* and above to *Calamus SL* for only US $200. To place your order, send DMC a photocopy by mail or fax of your original *Pagestream* program disks, your name, address, telephone number and a listing of the computer equipment that you own, PLUS the upgrade fee of US $200., $250. CDN. and $10. for shipping and insurance, within the United States and Canada only. Payment made be made by Visa, Mastercard or Money Order.

As was anticipated, the new modular design of *Calamus SL* has become the center of a powerful and ever-expanding universe of desktop publishing tools. We are proud to include our Macro Keyboard Template, free! Our Printer Driver Generator is also included, at no charge.

As a *Calamus SL* owner, you will be able to purchase modules to suit your specific needs. The modular concept means that you purchase exactly what you need today, with the knowledge that additional modules are available when you require them. The standard *Calamus SL* upgrade package contains 12 standard modules.

Currently, more than a dozen modules and scores of drivers are available for use with *Calamus SL*. We will publicize the availability of new modules, drivers and upgrades through our normal Customer Support channels, as well as through periodic mailings to our registered users.

[DMC Publishing, Inc., 2800 John Street, Unit #10, Markham, ONTARIO, Canada L3R 0E2. Telephone: (416) 479-1880; FAX: (416) 479-1882. GENIE: ISD or POTECHIN; COMPUSERVE: 76004,2246; DELPHI: ISD-MARKETING.]

J&J to Distribute RATSoft BBS

Salt Lake City, UT - J&J Computers is now the official North American marketer/distributor for *RATSoft/ST BBS* Software. Effective July 4th, 1993 all sales and marketing strategies are now managed by them.

RATSoft/ST, is a powerful electronic bulletin board system (BBS) designed to work on all Atari ST, STE, TT, and Falcon computer systems. Its easy configuration allows the system operator(SysOp) to customize virtually all aspects of the board's appearance and operation. *RATSoft* is extremely user friendly, for both the caller and the SysOp. It includes an Integrated Help System, which provides instant information on every aspect of *RATSoft's* operation. *RATSoft/ST's* overall speed of operation is nothing short of astonishing, especially considering its ability to allow up to 1024 seperate message bases and 1024 file areas.

The package is ideal for beginning sysops because of its GEM based configuration programs and fully automated installation program. Set up is completely point and click, even the modem setup is a breeze! No previous SysOp experience is needed to begin your own BBS using *RATSoft/ST* BBS software; it's that easy.

For you more advanced sysops, *RATSoft* provides BinkleyTerm networking compatibility. This means FIDONet, AtariNet and other national and international PC networks can be accessed via a *RATSoft* board.

J&J's will be distributing version 2.0 of *RATSoft/ST*. Current owners of *RATSoft* will receive the 2.0 upgrade at no charge via the support BBS. The new Ver 2.0 manuals will also be available to existing owners for a small fee. Owners of *RATSoft* receive a newsletter, which is devoted to RATSoft BBS' and Telecommunications in general, at three-month intervals.

Along with the roll-out of *RATSoft*, J&J's will be offering a competitive upgrade deal to owners of other Atari BBS software packages. Contact J&J Computers for more information and pricing on the upgrade program.

If you have never seen a RATSoft BBS in action, please call the support BBSs, (909) 989–3381 or (801) 272–9370, for an on-line demonstration. For more information contact: Neal Baker, J&J Computers, 250 East 6400 South, Murray, UT 84107. Phones: (801) 265-0835 voice; (801) 262-6035 fax; (801) 272-8370 bbs.

Atari Announces Jaguar

Atari Corp., the founder of the video game industry and the creative force behind some of the world's best-known titles, has announced the launch of a revolutionary new multi-media entertainment system, the Atari Jaguar. The launch will be supported by aggressive advertising, promotion and marketing efforts to be centered in the New York market in the fall, with a national roll-out of the product within one year.

The Atari Jaguar, housed in a futuristic casing, is an interactive multi-media system based on an Atari-designed proprietary 64-bit RISC processor. The 64-bit system is four times the technology currently seen in the market today. The Atari Jaguar features over 16 million colors in 24-bit true-color graphics and produces shaded 3-D polygons to be manipulated in a "real" world in real time. The Atari Jaguar also has real-time texture mapping and creates spectacular video effects.

The sound system is based on Atari's proprietary, high-speed, Digital Signal Processor dedicated to audio. The audio is 16-bit stereo CD quality and processes simultaneous sources of audio data, allowing for very realistic sounds, as well as human voices, which are essential for future multi-media applications.

The Atari Jaguar is truly expandable and will include a 32-bit expansion port which allows for future connection into cable and telephone networks, as well as a digital signal processing port for modem use and connection to digital audio peripherals such as DAT players.

The unit will also have a compact disc peripheral, which will be double-speed and will play regular CD audio, CD + G (Karaoke) and Kodak's new Photo-CD(R). Currently, there are multiple software titles in development, which will be available on MegaCart(TM). Atari, known for such groundbreaking 3-D titles as "Battlezone 2000(R)" and "Tempest 2000(R)," will issue spectacular new versions for the Atari Jaguar. New 3-D game titles will include "Cybermorph(R)," "Alien vs. Predator(R)," "Jaguar Formula One Racing(TM)" and many more. Atari will license third-party publishers to join the Jaguar family.

"The Atari Jaguar system will revolutionize the state of home entertainment as we see it today," said Sam Tramiel, president of Atari. "The idea of a 64-bit system is earth shattering and kids and adults will be amazed at both the imagery and manipulative capabilities. And we are proud that our entry into the multi-media entertainment category will be fully made in America."

The Atari Jaguar will retail for approximately $200 and will be available nationwide next year. The Atari Jaguar packaged unit will include one software experience and a Power Pad(R) Controller with a ten-key pad and other special features.

How to Obtain a Falcon030

Severna Park, MD-Due to an overwhelming demand for the new Atari Falcon030, Toad Computers has announced a step by step procedure for consumers to follow in their quest for a Falcon, which should minimize confusion and make it easier for everyone to get a Falcon as quickly as possible.

Atari Corporation recently required all new and existing authorized dealers to sign an agreement stating that they will not sell the Falcon030 computer via direct sales methods without advance written permission of Atari. This includes mail and telephone order sales.

In accordance with that agreement, Toad Computers may sell Atari Falcon030 computers to walk-in customers at our storefronts at 570-F Ritchie Highway (Toad Computers) and at 556 Baltimore Annapolis Boulevard (Toad Music) in Severna Park, Maryland.

The idea behind this agreement is sound. It will help the sales of dealers across the country and it will thus insure a firm distribution network for Atari products in the future.

If you have a local Atari dealer, we recommend that you contact them regarding the purchase of your Falcon030 computer. Furthermore, please help Toad Computers to direct our many excited customers in your area to that dealer by sending us the name, address, and phone number of your local dealer.

If you DO NOT have a local dealer, we suggest that you do the following:

1. Contact a local, favorite independent electronics, computer, or music dealer and encourage them to carry the Falcon030. Have them call Atari at (408) 745-2000 to find out more about becoming an authorized Atari dealer. No repair / electronics experience is necessary.
2. Call Atari at (408) 745-2000 to find out if there is another dealer in your area. You may not know about music dealers or other distributors in your area.
3. Write Atari Corporation (1196 Borregas Avenue, Sunnyvale, CA 94089, Attn: Sales Dept, or FAX at (408) 745-2088) and ask for either the name of your closest dealer or for written permission to buy your machine from Toad Computers. If you have no local dealer and Atari gives you permission to buy your machine from Toad Computers, please forward your signed letter (returned to you from Atari) to us and we will put you in line to receive a Falcon030, shipped to you via UPS.

Anyone who requested information on the Atari Falcon030 computer from Toad Computers in the past few months will receive a Toad Computers *Falcon Information Kit*, describing hardware and software available for the Falcon through Toad Computers, as well as a more detailed description of the above procedure.

For more information contact Toad Computers, 570-F Ritchie Highway, Severna Park, MD 21146. Phones: information (410) 544-6943; FAX (410) 544-1329; BBS (410) 544-6999.

Future Atari Shows

Blue Ridge AtariFest, July 24th and 25th, 1993

The Blue Ridge Atari Computer Enthusiasts (BRACE) and Computer STudio invite you to participate in the Fourth Annual Blue Ridge AtariFest in beautiful Asheville, North Carolina. Show dates and times are: Saturday July 24, 1993 10am-6pm and Sunday July 25, 1993 Noon-5pm.

We're once again taking over the Courtyard Shop (mall) area at Westgate Shopping Center for the show (location of Computer STudio), plus the use of vacant store spaces for seminar sessions. Seminar sessions will be 45 minutes in length, and developers are welcome to conduct a seminar on their product line or approved topic of their choice (seminar sessions are limited, so first come, first served).

This year's show dates also coincide with Asheville's annual Bele Chere street festival, when downtown Asheville is closed to vehicular traffic and becomes what must be one of the largest street fairs in the country. Westgate Shopping Center is one of the primary Park-and-Ride shuttle centers for transporting people to and from downtown, and we've arranged to have the shuttle service pick up at the front entrance of the mall and drop off at the rear entrance, so everyone taking the service from Westgate WILL walk through the AtariFest exhibition area sometime during the day. This will be a great opportunity to showcase Atari and Atari related software and peripherals, and introduce them to people who aren't already Atari owners.

For additional information, please contact Cliff Allen (GEnie: C.ALLEN17, Internet: CALLEN@UNCA.EDU, (704) 258-3758) or Sheldon Winick (GEnie: S.WINICK, Computer STudio, Westgate Shopping Center, 40 Westgate Parkway-Suite D, Asheville, NC 28806, (704) 251-0201).

The Mid-Indiana AtariFest v5, July 31st, 1993

The Mid-Indiana Atari ST Users proudly announce our fifth annual AtariFest to be held on Saturday, July 31st, 1993 from 10:00 am until 5:00 pm! MIST AtariFest V will be held at the Best Western Waterfront Plaza Hotel just minutes from Indianapolis International Airport. MIST AtariFest V caters to not only the novice but also to the professional users. Guests are invited to attend any or all of several seminars which will be held throughout the day. "MIST User Group" memberships will be offered at a one-time special price to all guests. Open invitations are extended for Lynx and MIDI-Maze competition tournaments. The top players will receive prizes. A spectacular assortment of limited edition T-shirts will be available for purchase throughout the day. Raffle prizes of all shapes, sizes and purpose will be awarded during the festivities.

Best Western Waterfront Plaza Hotel is offering special discount rates to guests of MIST AtariFest V. Guest rates start at $53 for a single and $59 for a double room. Please contact the Best Western Waterfront Plaza Hotel at (317) 299-8400 and be sure to mention MIST AtariFest V to get the special discount rates.

For more information, please contact me through one of the following methods. Phone: (317) 856-4260; GEnie: W.JONES43; FidoNet Mail: Bill Jones at 1:231/370.0 (The Zoo BBS-(317) 856-0252); InterNet/UUCP: Bill.Jones @f370.n231.z1.fidonet.org. Or by mail: ASCII, c/o Bill Jones, 6505 W Castle Ave, Indianapolis, IN 46241.

Houston Atari Safari, August 21, 1993

The 4th Houston Atari Safari will be held in Houston on August 21st, 1993. The show will be held on the University of St. Thomas campus, in the Jerabeck Athletic and Activity Center (3800 Mount Vernon) from 10 am to 5 pm. Safari '93 will include national and local vendors, etc. For further information, contact the Houston Atari Computer Enthusiasts at HACE, PO Box 820335, Houston TX 77282-0335 or phone (713) 493-0122.

The Glendale Show, September 18th and 19th, 1993

The Glendale Show returns with the Southern California Atari Computer Faire, V7.0, held at the Glendale Civic Auditorium in a northern suburb of Los Angeles, California. This has been the year's largest domestic Atari event for the past several years. In addition to vendor support, numerous Southern California user groups also attend the show. Contact John King Tarpinian at the user group HACKS at (818) 246-7286 for information.

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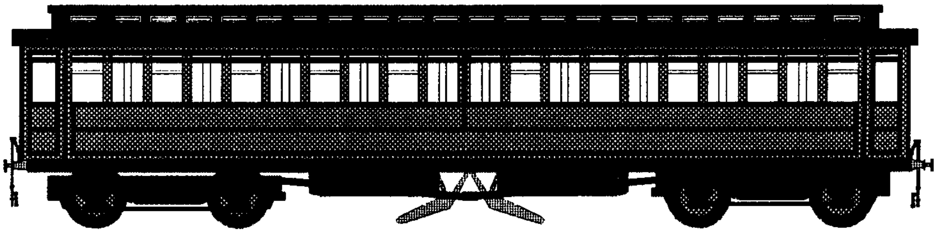

Atarians are known for a lot of things, both good and bad. As a group, we tend to move to a different drummer, setting ourselves apart from the MS DOS and Macintosh masses. We display a staunch refusal to give up on a class of computers that most in the industry choose to ignore as little more than a mite in a herd of elephants. On the other hand, we are as prone to cannibalism as a starving pack of wild dogs. Developers, other users, and of course those favorite tidbits, Atari's own Tramiels, are all frequent courses for debate and debasement. Into the midst of this foray, occasional shafts of light appear, individuals and corporations which have taken this product that we simultaneously love and hate and made it into a fully functioning and productive part of their professional lives. This month's installment will focus on another of those success stories, the HobbyTown USA franchises.

HobbyTown USA's Roots

For those of you not familiar with HobbyTown, it is a group of over 80 independently-owned hobby stores franchised from HobbyTown USA. HobbyTown's home offices are located in America's heartland, Lincoln, Nebraska, and its franchises stretch from coast to coast. Mr. Thom Walla, one of two HobbyTown USA partners and an owner of his own franchised store, agreed to share HobbyTown's story with *Current Notes'* readers.

Hobbytown USA has its roots in Lincoln. Mr. Merl Hayes, the senior of HobbyTown's two partners, has owned hobby stores in the Lincoln area from about 1969. By the time Thom arrived on the scene in 1978, Merl had sequentially owned three hobby stores and was a partner in his fourth, the "Great Race and Hobby Place" store. Thom bought Merl's partner out and the two of them began work on their future hobby store empire.

Thom started his association with Atari products in 1979, first as an 8-bit user. In 1980, Thom started to sell Atari computers from the HobbyTown store. His interests included computerizing the stores so, between 1982 and 1984, Thom started work on an Atari 8-bit point-of-sale program. Around 1985, after being approached by numerous prospective clients, Merl and Thom made the decision to start franchising HobbyTown stores, and in 1986 they sold their first franchise. Concurrently, one of HobbyTown's employees, Mr. Garry Kump, authored HobbyTown's first Atari ST point-of-sale program which was originally intended for in-house use only. With the sale of the first franchise, this program was thrown in to sweeten the deal and, as they say, the rest is history.

Exclusively Atari

As part of a national franchise, prospective HobbyTown owners are set up with the basic building blocks to run their business and are pointed in a time-proven direction. All HobbyTown stores are outfitted with at least one, and usually two or three, *Atari ST* or *TT* computers. Typically the stores are outfitted with *Atari TT* or *Mega/Mega STE* 2 and 4 MB computers. These computers run the custom software, which is the nerve center of their franchise operations, and are generally the only computers used by the outlets.

Atari ST/TT computers are used in every facet of HobbyTown operations. In the stores, virtually all programs utilized have been custom developed by Thom and his associates. Some of these uses include electronic cash drawer operations, point-of-sale transactions, inventory control, direct fax of orders to hobby product distributors, and other functions. My conversations with two different HobbyTown franchise owners indicated complete satisfaction with their Atari-based systems and software, noting that new employees quickly conquer a very easy and short learning curve, even if they have never worked with computers in the past. Currently, Thom is working on Bar Code implementation for the stores but, at this time, only about 40% of the items in the hobby market are properly encoded.

Custom Software

Personal Pascal was the original language used in the early versions of software that Garry and Thom wrote for HobbyTown. Later, Thom switched to *GFA Basic* for program development and Garry moved over to writing code for IBM. HobbyTown's programs were written as individual modules, which allowed the flexibility to easily add or upgrade functions without completely revising the system. This approach minimizes the impact of software changes on franchise owners and their employees. Additionally, some (limited) MS-DOS programs are run on the DOS emulators built into the HobbyTown computers.

Most of the HobbyTown franchises do not sell Atari, or any other type of computers. The average franchisee is not comfortable with the level of expertise required to successfully handle computer sales. Thom's franchise in Lincoln does sell *Atari ST/TT* computers (and soon, the *Falcon*) and many HobbyTowns carry the *Lynx* portable game machine.

Home Office Runs on Atari!

Until recently, HobbyTown USA corporate headquarters was 100% Atari but finally had to add an MS-DOS machine in May 93 for accounting purposes. This was done because no suitable Atari programs were available. In every other area, Atari computers are fully employed generating newsletters, flyers, graphic design, business correspondence, and a myriad of other business required functions. The most commonly used program is Soft-Logik's *PageStream* desktop publishing program, the workhorse for most printed output. Word processors utilized are selected by each user and include both current and discontinued programs such as *Word-Up*, *MicroSoft Write* (for Atari), *STeno*, and others. The only restriction on word processor selection is that it be *PageStream* compatible.

NewSTar Technology Management's *STraight FAX!* send and receive fax software, and Migraph's *Touch-Up* graphic manipulation program are also heavily used core programs. Thom has great things to say about Migraph's *Wand*, a full page hand-held scanner with optional sheet feeder. He noted its significant improvement over the half-width scanners, with scanned images requiring virtually no cleanup!

Thom also added a quick plug for another Migraph product, *Fast FAX*. He noted that the HobbyTown franchises had relied on *Fast FAX* for many years. The stores and corporate offices are now switching over to *STraight FAX!* for its enhanced capabilities and performance.

Minor Disruptions

HobbyTown's relationship with Atari has not been totally trouble free despite its staunch support for Atari products. Thom and Merl are very loyal to Atari engineers, believing them to have developed products as good or better than anything on the market today. Despite the hundreds of *Atari ST/TT* systems sold in support of HobbyTown franchises, the corporation has had significant difficulty due to Atari's propensity to discontinue production of its products before a replacement is available. Hobbytown expansion has been significantly impacted by the non-availability of *Mega ST/STE*s and *TT*s. HobbyTown will be looking at the potential for *Falcon* use in future franchised stores, but is more interested in the recent announced resumption of *TT* production. New customers have exerted a considerable push toward getting MS-DOS based systems for their franchises, but they are generally won over once they see Atari's GEM interface and the ease of use of the HobbyTown programs.

Indispensible Technical Support

Thom was very clear that one individual has a pivotal role in the maintenance of HobbyTown's Atari systems. Robert Patton, an electronic technician from P.E.E.R.S. corporation of Omaha, Nebraska, is reportedly one of the best Atari repairmen anywhere and has been largely responsible for keeping the HobbyTown computers up and running. An ex-USAF electronics technician, Robert provides support not only to HobbyTown but also to other Atari corporate and individual users, both locally and via mail from as far away as Hawaii! It sounds like he provides the kind of support we'd all like to have nearby!

Conclusions

Despite the majority of the corporate world's unwillingness to give Atari products a try, HobbyTown USA has proven that with determination, a vision, and an economical, user friendly computer system, an entrepreneur can accomplish anything. The HobbyTown success story provides another example of the immense capability inherent in Atari computers, even for an operating system that made its debut in 1985. In the computer world, that is a demonstration of staying power on an unequalled level. Few of today's successful corporations can make the claim that they are operating with a system that runs on computer hardware designed over eight years ago. For HobbyTown USA and its franchises, the inclination to follow the rest of the flock toward other systems has been ignored in favor of using a system of proven and economical performance. And isn't that what computers have been supposed to provide all along?!

HobbyTown (Thom's franchise store), 220 N. 66th
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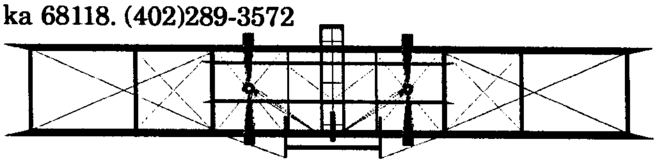

Atari in the STicks

Henry K. van Eyken

Schools and the New Cognition

Educators must look more than 50 years ahead for an obvious reason: to prepare our kids for their future. It is a projection that goes well beyond those of many writers of science fiction, and the probability of making a reasonably correct prognosis is, of course, very slim. So slim that they rather not think too much about it.

But of one thing educators can be sure: our offspring must be ready to cope with accelerating change and, hence, it is incumbent upon us to assess the best we can just what attitudes, what skills, and what knowledge are most likely to help our young people succeed. This, to my mind, includes the inculcation of a conviction that success is not merely survival (preferably with a margin of comfort) but that such survival serves a worthwhile social purpose.

It is evident that our children and children's children will have to make many choices in ever rapid succession and that an ability to arrive at sound judgements at a fast clip must be a clear objective of modern education. The soundness of judgements depends on the balancing of facts; and the swiftness of judgements depends on the efficacy with which facts can be gathered and assessed. Here, then, sketched in a few strokes, is the rationale for the urgent development of a cognitive science that melds human and machine cognition in the most effective whole that we may possibly achieve.

Insofar as we can speak of a tradition in computer technology, at the popular level it is a tradition that emphasizes the application of this technology to rather narrow purposes. For today's individuals, these are mostly the mastery of a few specific skills such as wordprocessing or navigating a spreadsheet. Short shrift is still given to computing as a component of cognition. There is, I think, a simple explanation for this: too many people, including educators, are still trying to come to terms with computer technology itself and, hence, are not in a comfortable position to fathom the potentials of that technology–to fruitfully think of that technology as an essential part of a larger whole, a context.

Our pocket calculators have taken over some of our mental work routinely. Pocket computers may, for now, be viewed simply as extended calculators. They may even be programmed to follow (some?) human logic quite closely, which is a demonstrable assertion. Just how close an electronic brain can resemble the human one became evident to Stephen Thaler, a physicist with McDonnell Douglas. Disconnecting the circuits of a neural network that had been taught a task causes it to produce results with a semblance of sense. They have been likened to near-death experiences of human beings. From *The Economist* of May 8, 1993:

> "As it approaches death, the duration of these fantasies increases; seen from the network's point of view, time seems to slow down.

> "Whether the emergence of this phantom "reality" has any wider meaning is unclear, but it might. Dr. Thaler thinks that it happens only in trained networks because, as a network learns, its elements organize themselves into colonies that respond specifically to different features of the environment. The regions of the brain which interpret inputs from the senses are organized in a similar sort of way. Destroying the connections in a computer tends to isolate those colonies and leave them vulnerable to stimulation by spurious signals. Destroying them in a brain might do the same."

In the accompanying and a few subsequent essays I invite the computent reader to come along on a few excursions into the domain of cognitive science. I wrote "A Flea in the Bonnet" four years ago at the invitation by the editor of *Literacy Across the Curriculum.* Upon reading my submission, she felt it unsuited for a readership composed mainly of educators at the college level. It was considered too explicit sexually (then!).

The essay did get published subsequently–after obligatory and proper academic review–in the February 1989 issue of the staid *Journal of Chemical Education,* an organ of the American Chemical Society. I thank the Society for their permission to reprint it here and I hope that its serious intend is taken as overriding any unintended offense to sensibilities.

A Flea in the Bonnet

Sometimes I wonder why I spend
the lonely night
dreaming of Fleabyte

As we sat bent over our tests, the teacher would crisscross from desk to desk in search of extracranial intelligence. His practiced hand would slice swiftly through the desks' dark places where we kept our books, presumed to be closed. Or pick up a writing pad and, with unhurried interest, riffle its pages. Or twist an arm to see up its sleeve. Pounding hearts sounded clear across the room. But for a boy to cheat was a rite of manhood. It evoked the praise of peers, and the more abundantly so when he was caught doing it.

Girls felt more liberated, even half a century ago. Theirs were hiding places no searching hands should ever reach. Mind you, I couldn't imagine girls who cheat. Girls were good and, besides, they had no lust for any such adventure. Although, I admit, not all of them. I recall that gracious invitation to share a wealth of knowledge, scribbled high up an exquisite thigh. Now, there was a data base! Slender fingers pulled back the embroidered seam of a pink undie as I nodded my itch for higher learning still. Athena! Anatha! How wise, indeed, to never judge a book by its cover. I must have been 13 then. It was the year before the Latin school's rector barred my access to classes. The Easter report card, adrip in red ink, clearly showed that whatever I had learned did not match the thorny questions of the school's many tests.

*

Lordy, Oh Lordy! Today, as I approach that deadline, Thy knowledge is so more freely accessed and copious data are easily put in some vault smaller than notebook size. I call it *Fleabyte*, a term of endearment for pocket computers of all makes. Fleabyte looks, and is, much like the common electronic calculator that may freely enter any examination room. With some such devices, facts and formulas can be entered, recalled, and used without any knowledge of either BASIC or the simple basics of 'most anything.

Not everybody approves of electronic memory. But if we persist in banning it from exams, we need invigilators fully up on the latest invasions from overseas. Let's face it, there is no stemming the tide. Better it is to let my Fleabyte go and use academic wits to turn that darn lemon into a refreshing lemonade.

The question to be addressed, then, is: What precisely should we be scanning human brains for? Many teachers already did so by pioneering open-book exams way back when silicon's highest calling was to make sand for white beaches and for glass to caress wine so red. Others will protest and thereby skirt the issue, sidestep our need to thoroughly think things through. Fact is, did not man learn long ago to not demand of hands what shovels can do better? Why the deuce, then, must we stifle neurons with tasks best left for electrons to do?

Testing for routines, such as the simple plugging into formulas, shall be out of our questions–as it should have always been, but never was. Examiners shall grasp better what cerebral buds may bloom and, perchance, bear fruit, and which ones will make fall's litter of dead leaf. Not only students shall prepare for their examinations; the examiners, too, must do their bit and attempt to spotlight somewhat higher up the tree of cognition. They shall be taxing knowledge less and judgement more.

Teachers know that as these prophecies come true, more students are bound to fail unless . . . unless teachers make them aim for goals more sublime than what a computer sets. That is why they should come to terms with Fleabyte. Get to know it and get to understand its potential. The power of Psion Organizer II is greater than that of the desktop Apple brought into school only a few years ago. The day is breaking that Fleabyte can help its owner face complex tasks and then become a trusted companion for life in a threatening and threatened world. And that is its glory! Man and microchip, *homo sapiens* and *pulex exiguus*. Two strands of mind, intimately twinned as a single being.

The revolutionary spirit is already upon us. Fleabyte is in our schools. In universities, students think sharper with Fleabytes by their side. No, there is no more *whether*, and there barely is any *when*. The only operand now is *how*. And this urgently requires teachers to become new professionals, literate by the standards of today. Teachers at ease not only with their living subject and its value in a competitive world, but ones who know that world and practice a vision of its further evolution.

Teachers shall develop the economic and, yet, pleasurable use of brains by designing the right support. Now that electrons can weave thought, teachers will retrace the path of those who first saw clay or skin or paper bearing words. They shall be computists to better help future generations. To permit them to stand their ground in a world ever-complexing, and do so in peaceful comfort, within mental means. And society must grow and nurture those teachers. If it loves its children, lip service jolly well must end.

And absolutely essential it is for school administrators, whether they are BIG or small, to know that schools are for kids and not careers. That their job is to help, not hinder, and that they should worry less about today's system and more about the very *Enterprise* we are all in, which is *THE* future and not just one's own. Only then, upon the resurrection of old ideals, will they be facilitators as they focus on the arena where learning must occur.*

This can't come too soon. Upon Western rot, Eastern power grows, forcefully fed by singular aim. "The Japanese have the world's most competitive and success-oriented school system with each child (and each teacher) trying to do better than the neighbour's," writes *The Economist*, "while the West regards school as social-welfare organizations." Is this gloom out of whack? A little, maybe. And, yet, the periodical stabs at the heart of the matter, that very reason why we bequeath a darkness to our children.

Let's revive that almost vanished spirit. Marvel at Fleabyte–introduced by those generally most admirable Japanese. Let it join us to turn the tide of that endless water upon which sail our offspring's fortunes!

De pulice exiguo bona.

The nightingale
tells his fairy tale
of paradise ...
HC:hv

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* The notion of administrators as facilitators was preached and practiced by that extraordinarily great administrator, Dawson College's first Director-General, Dr. Paul Gallagher, now O.C. (Order of Canada).

[Reprinted from Journal of Chemical Education, Vol. 66, Page 165, February 1989.]

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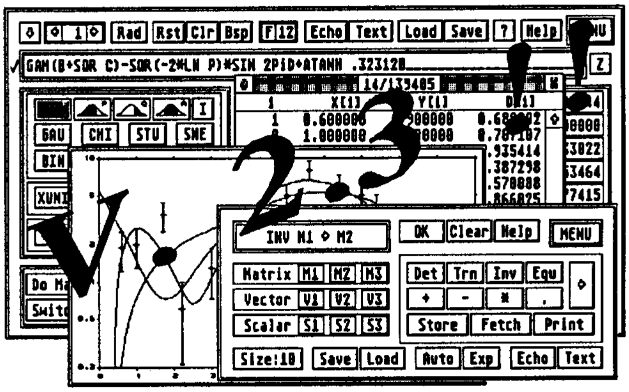

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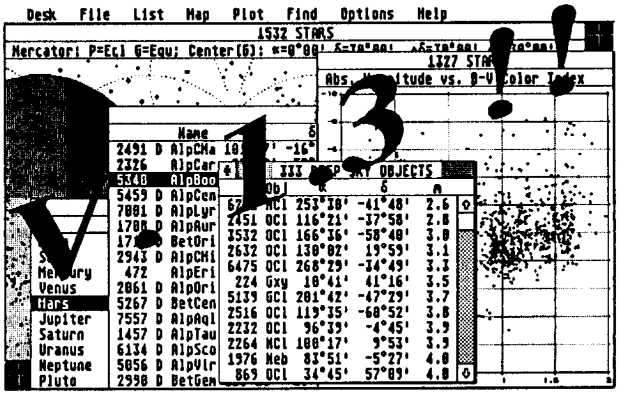

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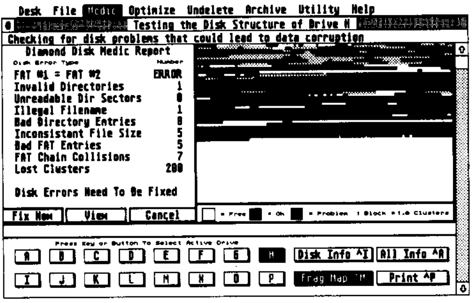
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Testing the Disk Structure of Drive H
Checking for disk problems that could lead to data corruption
        Diamond Disk Medic Report
Disk Error Type                   Number
FAT #1 = FAT #2                    ERROR
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Unreadable Dir Sectors                 0
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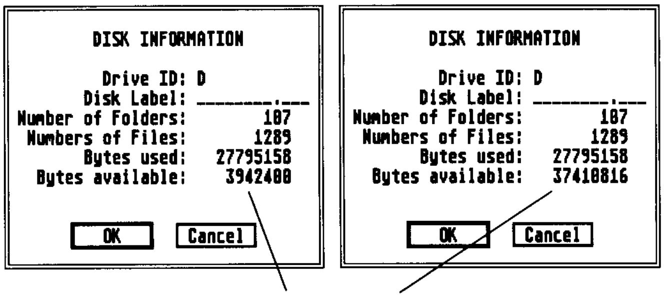

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        DISK INFORMATION

         Drive ID: D
       Disk Label: ________.___
Number of Folders:         107
 Numbers of Files:        1289
       Bytes used:    27795158
  Bytes available:     3942400
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```
        DISK INFORMATION

         Drive ID: D
       Disk Label: ________.___
Number of Folders:         107
 Numbers of Files:        1289
       Bytes used:    27795158
  Bytes available:    37410816
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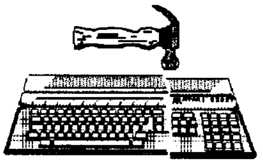


by J. Andrzej Wrotniak

Programming as a State of Mind

Object Oriented Programming

How to Fix Something Without Going In

(Part Two of Two)

If you are reading this column, I can assume you want to know what object-oriented programming (OOP) is about, otherwise, you would be reading something else. Starting from this assumption, here is some advice.

- If you haven't read the first part of this article (*CN* of June '93), read it now.
- If you have read it, but you are not sure what I was talking about, read it again.
- If you have read it, and if you think you understood everything (or almost everything), read it again.

A month ago we discussed the first three levels (in my own informal classification) of object-oriented programming: data encapsulation, information hiding and inheritance. Today we are going to discuss Level Four: *polymorphism*, usually achieved with help of *virtual methods* (sometimes also called virtual member functions).

What's in the Word

According to Webster, in biology, polymorphism means "the occurrence of different forms, stages or color types in organisms of the same species." Translated into the language of OOP, this is similar to the fact that a `Warrior` or a `Wizard` is also a `Person`, if `Warrior` and `Wizard` are data types (*classes* in C++) derived from `Person` (the base class).

The phrase "is also" above means in programming "can be used exactly as." Therefore, one might argue that "polymorphism" has been achieved at our Level Three. Most people, however, (and I have run a small opinion poll at my local supermarket) reserve this term for cases when a `Person` can *act differently* (with its own, internally declared, methods) depending on which of the derived classes it belongs.

Am I clear? Of course not. The rest of this article will be devoted to an elaboration of the above sentence.

Mean Hulk Strikes Again

Risking a degree of repetitiveness, let us define from scratch the minimal `Person` class in C++, for use in a dungeon adventure game.

```
class Person {
private:
  char name[16];
  int health;
public:
  Person(char giv_name[], int init_health);
    // constructs a Person
  void Get_Name(char s[]) const;
    // copies Person's name into s[]
  int Health() const;
    // returns Person's health
  int Dead() const;
    // returns TRUE (1) if Person is dead
  void Hit(int i);
    // affects i points of damage on a Person
  };
```

All methods (member functions) declared above have to be implemented somewhere. Let us illustrate it on two examples. The first one is trivial:

```
int Person::Health() const {
  return health;
  }
```

It has to be provided because the data member `health` is private. The word `const` in the function header means that the `Person` to whom the method is applied, like in

```
Person Guy = Person("Mighty Guy",120);
...
int h=Guy.Health();
```

will remain unaffected by the function call. This will not be the case with our other function:

```
void Person::Hit(int i) {
  health = health-i;
  if (health<0) health = 0;
  }
```

which, when called like, say,

```
Guy.Hit(200);
```

will, indeed, affect poor `Guy` to a significant degree.

Now, let us define a `Warrior`, who is a special kind of a `Person`, having an additional attribute of dexterity (which will determine how much damage a `Warrior` can do to a `Person`):

```
class Warrior: public Person {
private:
  int dexterity;
public:
  Warrior(char giv_name[], int init_health,
    int init_dexter);
    // constructs a Warrior
  int Dexterity() const;
    // trivial: returns dexterity
  void Attack(Person& whom);
    // affects damage on whom
  };
```

(The **&** sign before the **whom** parameter is the same as VAR in Pascal parameter declarations–it means that **whom** is passed by reference, i.e. may be changed).

Let us implement the last function (in a simplistic way):

```
void Warrior::Attack(Person& whom) {
  if Dead() return;
  whom.Hit(dexterity/10);
  dexterity = dexterity+1;
  health = health-1;
  }
```

First, if the attacking **Warrior** is already dead, the function just exits without doing anything. Second, the poor **whom** is hit with a number of points roughly proportional to **Warrior**'s dexterity. Third, the **Warrior** has learned something, his dexterity increases by a point (yes, I've heard about the ++ operator in C, but some of the Readers are used to Pascal or Basic; eat your vegetables and do not slouch). Finally, he loses a point of health.

Now, if **Guy**, **Brute** and **Hulk** are declared as

```
Person Guy = Person("Poor Guy",120);
Warrior Hulk = Warrior("Mean Hulk",120,40);
Warrior Brute = Warrior("Lazy Brute",100,25);
```

we can call

```
Hulk.Attack(Guy);
```

after which Guy will be left with 116, and Hulk with 119 points of health (but 41 points of dexterity). Yes, we also can use

```
Brute.Attack(Hulk);
Hulk.Attack(Brute);
Hulk.Attack(Hulk);
```

with the United Nations negotiating in Geneva while everybody is bashing everybody else's brains out, but not

```
Guy.Attack(Hulk); // wrong !!
```

In the three preceding lines it was OK to use a **Warrior** as the function parameter, expected to be a **Person**. A **Warrior** *is* a **Person**. In the last line we cannot use a **Person** before the dot, where a **Warrior** is expected, because a **Person** *is not* a **Warrior**.

A Non-Working Wizard

At some point, in Version II of our successful game, we decided to introduce another class of participant, a **Wizard**. This is the funny little fellow in a conical hat, who cannot be hurt by anyone trying to **Hit()** him. The only way to hurt a **Wizard** is with a **Spell()**, cast by another **Wizard**.

So far so good, we may think, setting up a new class interface, with **Wizard** containing no new data members as compared to **Person**; just a number of new methods:

```
class Wizard: public Person {
public:
  Wizard(char giv_name[], int init_health);
    // a trivial constructor
  void Hit(int i) {}
    // {} is an empty function block,
    // so Hit() just does nothing
  void Spell(Wizard& whom);
    // affects damage on whom
  };
```

It is not difficult to implement **Spell()** in a manner similar to **Warrior::Attack()**:

```
void Wizard::Spell(Wizard& whom) {
  if Dead() return;
  whom.health = whom.health/2;
  }
```

If the attacker is dead, nothing will happen. Then the attacked wizard's **health** will be halved (in C or C++ integer division rounds towards 0, like **DIV** in Pascal). Simple.

The function **Hit()** deserves an explanation. Its name is the same as that of **Person::Hit()**, but both functions are different. The compiler will chose the proper function, depending on the type of the object preceding the dot in the function call (this is called *name overloading* in C++ or Ada).

For example, if to the declarations introduced above we add

```
Wizard Dave = Wizard("Davemeissster",20);
```

then, depending on the context, a different version of **Hit()** will be used by the compiler:

```
Dave.Hit(100);
  // doesn't hurt, Wizard::Hit() used
Hulk.Hit(100);
  // Hulk is hit; Person::Hit() called
Guy.Hit(100);
  // same as above
```

By defining **Wizard::Hit()**, the method **Person::Hit()** becomes hidden for objects of the **Wiz-**

`ard` type; the compiler will assume the former. This is not so for a `Warrior`, for which the compiler will use the method inherited from the `Person` class.

(For the purists: this can be overridden in C++ by a more explicit call: `Dave.Person::Hit(100)` will do the trick, but this is of secondary importance here.)

Did we make the `Wizard` class impervious to a `Warrior`'s attack? Here is the bad news: no. Look at the implementation of `Warrior::Attack()` above. It contains a call to `Hit()`. When `Attack()` is being compiled, the compiler does not even know about the existence of the `Wizard` class, so it will assume that `Person::Hit()` is being used.

Without the fourth level of OOP, in order to fix the situation we would have to modify the code of some of the previously defined classes. For example, we could introduce a "hittability flag" inside `Person`, and `Person::Hit()` would then check this flag to decide whether to subtract the health points.

Fix It Without Opening It?

This is not a very good solution. First, it requires modifications to something already done and working properly. Second, we may then come up with yet another class derived of `Person`, requiring similar modifications. This may have an impact on some other pieces of code, which suddenly will stop working.

Last, but not least, in large projects we often acquire libraries from another programmer, group or company, being unable to mess with their code at all.

In other words, it would be great to design our `Person` class so that its behavior could be modified in classes derived from it, without any changes to the `Person` code at all. After all, it is impossible to predict all possible classes derived from `Person` in the future.

This is where Level IV of OOP, the virtual functions, will save the day.

The Extendable Person

Using virtual functions, we can design the `Person` class so that it will meet our present and (hopefully) future expectations:

```
class Person { // new design
private:
  char name[16];
  int health;
public:
  Person(char giv_name[], int init_health);
  void Get_Name(char s[]) const;
  int Health() const;
  int Dead() const;
  virtual void Hit(int i);
  };
```

Except for the removed comments, there is just one change here from the original version: the word `virtual` in the declaration of `Hit()`.

This is a very important message to the compiler: this is just the default `Person::Hit()`; when the program is running, some other method may be substituted here (unknown at the moment of compilation), depending on the *real* nature of the object (possibly derived from Person) to which the method is applied .

In a similar fashion, we will now have to re-design the `Wizard` class:

```
class Wizard: public Person {
public:
  Wizard(char giv_name[], int init_health);
  virtual void Hit(int i) {}
  void Spell(Wizard& whom);
  };
```

The only change is, again, the word `virtual` in the declaration of the (empty) function `Hit()`. Here it means "this is the new default, replacing any previous ones."

(In real life I would add another `virtual`, preceding `Spell()`, as one day we may want to introduce a `SuperWizard`, with different spell-casting capabilities, derived from `Wizard`. For the time being, however, let's keep things simple.)

What other changes do we need in our code? None at all; now everything will work the way we want it to.

The source code looks (except for two extra `virtual` keywords) the same as before, but the compiled program is much different. The most important difference will be in how the compiler translates the code of `Warrior::Attack()`.

In the previous version, the compiler would just translate `whom.Hit(dexterity/10)` from that code into a call to the original `Person::Hit()`. In a call

```
Hulk.Attack(Dave);
```

this would result in `Wizard Dave` suffering a damage. Now, however, `Hit()` will be not *bound* to any particular function at the compilation time. All the compiler knows about `Hit()` is that it will be a `void` (result-less) function with one `int` parameter. (C++ and Turbo Pascal require that re-declarations of virtual functions look exactly like the original.)

The `whom.Hit()` invocation will be translated as "check who this `whom` person really is, and use the virtual `Hit()` function possibly re-defined from the original-if `whom` is not just a plain `Person` but someone derived from that class."

The actual address of the called function will, therefore, be known only at the runtime. This is called *late binding*, and as a feature of a language the term is equivalent to "virtual functions." This is also what Level IV of OOP is about; what is left are just technicalities.

All Done with Mirrors?

`Warrior::Attack(whom)` has to know whether `whom` is just a plain `Person` or an object of a derived class. Obviously, this information has to be contained inside `whom`, i.e. inside a `Person` structure.

When the `Person` class definition is being compiled, the compiler knows how many of the `Person`'s methods are virtual, i.e. can be potentially substituted with others. It will add some hidden elements to the `Person` record, to hold pointers (machine addresses) to those functions.

At the moment of data object creation, these pointers have to be assigned properly—but that is exactly when we know whether a `Person` is a stand-alone entity or a part of a derived object.

These pointers have to be stored in every variable of the `Person` class or of any class derived from it. I have seen classes with as many as twenty virtual functions; twenty pointers in every object means a considerable overhead. This is why usually just one is added, pointing to a *table* of virtual functions proper for the given class. You need just one table for every class (base or derived), not for every data object belonging to any of these classes.

(You could easily check the size of a `Person` object by a call to `sizeof(Person)`. The original version used 18 bytes: 16 for `name` and two for `health`. The version with `virtual` function `Hit()`, without any new data members, takes 22 bytes–four extra for the table pointer.)

A Blessing, a Curse, or a Smoke Screen?

To which of the above categories should we assign object-oriented programming?

Usually, people asking such questions want a short answer; mine usually is, "Don't ask me, I'm just a poor immigrant," although a friend from work came up with even better; "Don't ask me, I'm just a kid," which, alas, would not work for me.

A more serious answer has to take into account possible pros (streamlining of the program code, fewer errors, better maintainability and re-usability) and cons (conceptual complexity, new sources of errors, overhead in data storage space, program size and execution speed).

In my opinion, Levels I and II (data encapsulation and information hiding) impose no penalty at all, while offering considerable advantages in software development. At these levels, however, an object-oriented approach is really a state of mind (or of a programmer's internal discipline).

Level III (inheritance, or simple polymorphism) does not pose any significant problems, either. This is, however, an area where C++ dominates the scene and much of the criticism about OOP should be rather addressed to this language. It has some very powerful and convenient features, like implicit (invisible in the source code) calls to constructors or conversion routines, and these, often unintentional or unnecessary, may lead to a considerable increase in program size and execution time.

To stress it again: this is the matter of a language, not of the OOP approach: object-oriented Turbo Pascal does not cause any unintentional overhead here (although, without all those powerful and convenient features, it is much less fun to use).

And finally, Level IV (late binding) introduces some overhead (creating and handling the virtual function tables), but this does not seem to be significant, unless you tend to declare every function in every class as virtual (and I've seen such cases!).

Much worse is the conceptual barrier: the ideas are non-trivial, some implementation aspects quite convoluted (especially in C++) and a great majority of professional programmers may have problems with some of the more esoteric aspects (I count myself in that number; this is why I'm not using virtual destructors in C++).

To put it shortly, OOP can be almost anything:

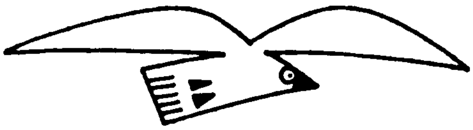
- In the hands of a smart programmer who uses the features he/she needs, OOP can be a blessing.
- Used indiscriminately by someone just "because it is there," it can be a curse.
- The term itself can also serve as a smoke screen, when used by a person who does not know what it means, but will not admit it (why not? some of my best friends do not know OOP!).

If you survived to this point in the *State of Mind* series, the chances are you'll never join the third group. Congratulations.

The End (?)

This was the last of the *Programming as a State of Mind* columns, completing a more-or-less systematic overview of the major concepts of programming. The whole series took more than two years to complete, but writing it was fun. The Readers' surprisingly vigorous feedback, with remarks, criticism and encouragement, was more than helpful. Thank you all.

Now I am going to take a shower, and then I'll start thinking about possible additional installments, loosely related to the whole. If you have any suggestions, this is a good time.



Thoughts on the Atari Platform

High End Software Update

Running Out of Ram by *David Barkin*

My first complete year of writing for *Current Notes*. Lord knows, I want to keep this new high paying career for the next 50 years. Unfortunately, paranoia is running amuck in the Atari world, and who knows how long it will last or how to deal with it. Unlike other Atari publications, the bigwigs here at CN are facing the "Atari is Dead" crisis with their usual aplomb. Not so other publications. You've probably forgotten the names, but Sam Myshnesky, the former editor for the Atari Abacus 1 bit section of *Antique Atari*, recently jumped off the top floor of the Washington branch building. Downtown DC was brought to a standstill by the thousands of little marble "rams" scattering across the streets. Sam survived and is starting a new life in Silicon Gulch, Montana. James Coogan, who once wrote the monthly "Crossword Creator" column for *Space Age Atari*, now works as a checkout machine consultant for the A&P chain of supermarkets. Thus demonstrating that the Atari prepares you for any platform.

The World of Paranoia

At this point in time, many of the usually loyal Atari users have grown paranoid about staying with this platform. Myself and I join in this schizophrenic fear, but the plain truth of the matter is that this paranoia, like all paranoias, is, by definition, unjustified.

Let's pause and take a look at why we use computers in the first place. Bear with me as this article belabors the obvious. Just what is this machine that has snatched my soul like nothing else in this world? During the sixties I never even came close to getting addicted to drugs, although quite a few friends were not so fortunate. I gave up cigarettes with only a minimum amount of violence to family, friends and pets (the dog might disagree about this last statement). Giving up the computer is absolutely unimaginable. Yet this expensive collection of transistors is just a gigantic calculator *until I run a program*. Then it is magically transformed into whatever I want it to be.

People ask me, "What computer will not become obsolete?" Every computer is obsolete the day before you bought it. The real question is, "What do you want to do with your computer?" Is there anything you want to do with a computer that can't be done easily on your Atari? Is there anything you want to do with a computer that *can't be done better than with your Atari?*

Desk-top Publishing

Consider desk-top publishing. A couple of years ago, this magazine and others were full of a discussion of "just what is multi-tasking anyway"? Not to open up a can of worms here, but *Calamus SL* actually provides a multi-tasking environment for Desk-top Publishing *within one program*. Load in a raster graphic. With the three optional modules of *Brush. Speedline*, and *Vector Drawing*, you can remain in your DTP environment, clean up the image, vectorize it, and then color and/or alter it. An interactive environment for the complete manipulation of any aspect of type and design. The standard module of *PSK Write* actually gives you the power of a word processor complete with spell checker. Imagine this, complete control of the color and pixel alignment of raster areas and color and grayscale images. All of these modules are actually separate programs interactively working together on different facets of your job–all without leaving the program. Why should I be paranoid about my Atari?

Paranoia and Service Bureaus

Last year began my first experiences with service bureaus. I restored some photos using *Retouche Black and White Professional* and saved them to disk as .TIF files. The photo, for example, might be 4.5 inches by 3.25 inches. I wanted the Lino output to be 7.75 by 5.6. This is a proportional increase. My service bureau is armed with its Macs and *Quark Express*. I was worried whether these "real computers" would get up off their desks and refuse to work with lowly Atari files.

A number of surprises awaited me. The big one was that an image loaded into *Quark* could not be directly resized proportionally. *Calamus SL* allows the user to turn on proportional sizing, grab a corner and pull the image into any size he wants. For precise measurement, simply type in either the height or width and the other measurement will be resized automatically. You can't do this with *Quark*. You need a calculator to plan the increase.

Could this be true? Next door to my apartment in New York City is a design studio. Twelve people are happily engaged in typesetting and design. Maybe they knew the secret. They did! When you use *Quark Express* you need a calculator to resize your image. They didn't regard this as a problem. What do they know? They have Macs.

So it goes. In the world of Desk–top Publishing, programs on the Mac or IBM compare favorably with *Pagestream*. *Pagestream* users will be quick to object; *they can resize images without all the gobbledegook.* But, the point I want to make, without seeming to criticize *Pagestream,* is that there's no program that can match *Calamus SL* in this field. Since DMC has finally gotten their Postscript converter working, I can take my TIF files to my Service bureau as .PS files without listening to their curses as they search frantically for a calculator. Their heavy duty Macs used to automatically start running screen saver programs the minute I walked in the door.

As an embarrassing aside, I might add that the first version of the Postscript converter actually worked; the problem, as it turned out, was that I was using it incorrectly. For all my talk of "always read the manual," in this case, I failed to follow instructions. Besides *Pagestrean* and *Calamus SL* there is also *Publisher ll* for people whose publishing needs are not that dramatic. In other words for every aspect of Desk–top Publishing I need go no further than my Atari.

Computer Aided Design

In the world of CAD there is no program that even comes close to *DynaCADD*. You'll have to buy a Sun workstation before you can compete with this program. Speaking personally, I can't even begin to *think* about buying a Sun workstation. Why should I badmouth my Atari? Is *Dyna CADD* expensive? You bet it is. It's made for someone who wants the absolute best *and fastest,* and only my Atari can run it. DMC, by the way, has recently released a two-dimensional version of *DynaCADD* at a much reduced price for people who don't need quite that much power.

Optical Character Recognition

If you have, or are planning to buy, a scanner, then you should know that one of the finest OCR programs around is available for the Atari and at far less then one third the price of comparable programs for other platforms. Migraph, the company that brought you *Touch–up* and *Easy Draw* puts out two versions of their OCR software. These are both solid, flawless and easy to use programs. Aside from recognizing numerous existing fonts, you can teach these programs to read any font. I should pause and assure the reader that teaching OCR to "read" was no where near as difficult as teaching my dog to sit. A new font was learned in 15 minutes while it took my dog 4 years to teach me to leave him alone. Should I sell my TT for the privilege of spending $800 on a comparable IBM product?

Autotracing

Gribnif Software provides *Convector Professional,* the best stand–alone autotracer in the business. It runs only on my Atari. In addition to *Convector,* we have *Avant Vector* by Codehead, which provides autotracing as part of a full featured vector drawing program. *Silhouette* provides color autotracing as part of its package. These are powerful programs, and there are many others, which can import and export to a host of different formats that *any* computer platform can use.

Animation

The new Falcon computer, unlike the new slew of low-end Macs, is a true 32-bit machine. It's going to warm the hearts of those interested in computer animation. But there is already the entire *Lexicor* family of software for the ordinary ST to do professional level animation. If this is the direction you want to go, than even your existing Atari can do the job, because *Lexicor* is Pixar compatible (Pixar being the industry standard).

I just finished an article in the science section of the New York Times about the excitement generated by "morphing." This is the melting and shape changing special effects that movie goers are awed by. Lexicor has been capable of this for over two years. Once again, we have to ask ourselves, "What do we want to do with our machines? Can they do the job?"

Music and Atari

In my neighborhood, the so called East Village, I know many musicians. Talk about addiction. These people are really into the hardware of their trade, and we computer addicts have to take a back seat compared to them. Apparently, they haven't gotten the word that Atari is dead. Perhaps it's that heavy metal sound that has flattened out their neural pathways. There they are, running around talking about the new Falcon. I can't say that they're excited about Atari. They are excited about the ease with which they can make music with *our* computer. They have neither the time nor inclination to speculate about whether they are keeping up with the Joneses on the latest computer hardware They are into one thing, and one thing only: making music. Compared to the paranoid Atari user, they live in another world. Worst of all, from my point of view, *is that they don't read computer magazines*. They don't even read my column. They're not interested in this paranoia of comparing their machines to others. They create music and the Atari is *just another instrument to them.* To a great extent their attitude is correct. They are competing in the real world, where it's important that the machine perform the task. The Atari performs.

Word Perfect 5.1

We, on the Atari, are not supported by many of the big American Publishing houses. In practical terms, so what? *Word Perfect* 5.1 is the best example that comes to mind. Do you really want 5.1? As an owner of a DTP business, I *need to be able to read 5.1 files*; but the program is a big mistake. It's neither a word processor nor a DTP program. It's a document processor, much like *Word Flair ll.* Now I have no quarrel with document processors, but they are slow compared to a word processor, and clumsy compared to a full featured DTP program. I have a program, called *Word Perfect Switch*, that allows me to translate *Word Perfect* files into a number of different formats. Aside from this program, *Calamus SL* will read these 5.1 files directly, without any help. In other words, for word processing I have a choice of half a dozen top notch programs, all of them much faster than *Word Perfect.* Must I switch to another computer platform to be able to run a program that slows down my creativity in writing?

Hardware I Know and Love

I've spent a lot on my present computer, $3400 to be exact. But I'm only counting the basic machine; in my case, a TT with 14 Megs of RAM. Since that time, late 1991, the price has dropped. The same setup could probably be purchased for $2400. But I've spent $5000 on peripherals, printers, scanners, disk drives, etc. All of these peripherals don't care which computer platform they're attached to. My monitor is a NEC. My scanner is an Epson. My printer is the HP IV. In this year, 1993, I can do anything that any computer platform can do. I can do it better. This is what I mean by paranoia about Atari. My TT will not be out of date for another five years. By this, I mean that the Desk–top Publishing, and Photo–manipulation, that so intrigue me, are both easier to do than with any other machine. Five years from now, when I look around for another machine, hopefully, Atari will still be there; but whatever peripherals I own will plug into any computer. Perhaps I will be forced to buy an IBM 786 DX, equipped with a Gemulater, so I can still use my software.

The people next door take twice as long to accomplish the simplest tasks. But they have Macs, real computers. Should I run and trade my TT for a Mac classic. The price seems right. But Apple has crippled the new Macs in the same way that Intel crippled the SX chip. It's like putting a 400 horse power engine into a car with a one speed transmission. No, to equal my TT, I have to spend big bucks on a Mac with a 68040 processor *and these chips are crippled, also.* While faster then my TT, *they're not much faster.* Apple has done something to their high end machines which leaves them slooow. System Seven? System Seven eats memory, System Seven is giving Mac users the hebe–jeebies. System Seven...

It's pointless to compare IBM clones, with Windows sitting on top of DOS, to my ST. My old 1040 ran rings around 386 machines for *any high end software.* My TT dusts all the 486 DX Machines in the same manner. The DX chip is not crippled as is the SX chip, but it still must contend with DOS. It still must contend with software that is downwardly compatible to the older machines. The whole platform is crippled by its very marketing success.

Did you ever notice that most IBM users have only one partition on their hard drive? Yes, just one big C, with many, many little files, carefully hidden away, so that no one will ever find them. Sort of an advanced, built in, file protection system, so that unauthorized people, in addition to the regular user, will never ever see them again without the payment of a big ransom. IBM people ask my help all the time. It's amazing how much interesting and potentially lucrative information about their personal lives I've discovered tucked away on Drive C.

The Hidden Life of the Personal Computer

What exactly is being risked by sticking with my computer? If the user is just interested in personal word processing, or occasionally making a sign for the local church group, then the incredibly easy to use, and reliable Atari, is perfect. Going one step further, does the user want to submit articles on disk to publishers? Atari disks are readable and Atari files can easily be made compatible for any publisher's requirement. If your running a small business, any small business, there is Atari software that is competitive with anything on the market. The big investment for someone who wants to make money with his computer is the peripherals, not the machine itself. My hardware isn't going anywhere. I can plug it into any computer. But I don't want or need to. More importantly, I don't have to. My much maligned TT is an incredible powerhouse of a computer with software that takes advantage of this power.

One example of the competition. The new *Quark Express 3.1* for windows comes with the following recommendation from an enthusiastic review in *EC&I*; "XPress requires a fast 486, 16MB of memory and a quick hard drive and video card." I've learned to dread the thought of dropping *Calamus* for this Mac and IBM marvel. I'm trying to make some cash with DTP. If I fail in this endeavor, it won't be because I stuck with Atari and *Calamus SL.* Even if I used *Pagestream,* I'd have as much power as its Mac and IBM competition. The new availability of 24 bit scanners and software fills in the last gap in my DTP capability.

New Software

Getting back to ST software, there's some good news on the photo–manipulation front. The two programs, *Retouche Black and White*, and *Retouche Color and Design*, may be coming down in price. These two programs are *far* better then any program on the Mac or IBM platform. Hopefully, I'll have more on this in the next issue.

Pagestream users should note that the shareware program, Gemview 2.23, will load the .TIH files produced by some Epson scanner drivers, and convert them to normal .TIF files.

In the meantime, *Oregon Research,* the authors of *Diamond Back ll* and *Diamond Edge* have released *True Paint.* This is a virtual page, full color paint program, meant to take advantage of the color capabilities of the Falcon but will run fine on any ST/TT. They are also about to release *True Image.* This is a photo–manipulation program similar in power to the junior versions of Photo–Shop and other such programs on the Mac and IBM. Both of these programs will be able to deal with the full color and grayscale .TIF files and a host of similar formats. Both programs are well under $100. *True Paint,* which is out now, lists for $79.95. *True Image* will be released by August.

DMC has released a software driver for the Micro–Teck family of scanners. This program lists at $79. You'll need a Falcon or TT for the SCSI interface. ICD Corporation tells me that if a scanner has manual control over parity (whatever that means) then the *Link,* ICD's DMA to SCSI adapter will allow you to hook up a scanner to the DMA port of an ordinary ST. Meanwhile, both San Jose Computer and Goldleaf Publishing are selling drivers for the Epson family of scanners.

DMC has just released a program to take advantage of *Kodak's* film developing service. This means that after taking a roll of film, you take it to be developed; but, instead of hard copy, you get a CD ROM disk with all the photos on disk in five different resolutions. This program is available for the huge price of $20, CD ROM drive not included.

DMC has also released *Outline lll.* This is a complete and unique color vector drawing program. *Silhouette,* distributed by Toad Computers, will do color auto–tracing, as well as being a full featured program by itself.

Selling Atari

There is no doubt that Atari has failed miserably in its job of selling the ST line. But there is still one big market for computers which no one has tapped into and is still accessible to them.

Most computer retailers, and for that matter the readers of this magazine, consider themselves entrepreneurs. My little business of DTP falls into that category. But I survive in the real world as a boiler repairman. I am also a strong Union man. Without getting into the politics of this question, let me point out the following.

My local is 553 of the Teamsters. The Teamsters is a huge organization composed of semi–autonomous locals. My local was taken over, 25 years ago, by a strong rank and file movement. As we say in the trade, "We tossed the bums out."

We have our own pension plan, medical plan etc. Our incomes range from 30 to 50 thousand a year, depending on whether you're a driver or mechanic. We have the time and the money to think about things other than just survival.

No one, however, talks to us directly. Advertising in our newsletter is dirt cheap. Most of us want to expand our horizons; we are ready for the computer world because the computer opens the doors to a million activities. This potential market *is not yet committed to any computer platform. Plus, big companies like IBM give us the willies.*

Why not take out educational ads showing the advantages of the Atari over other machines? The Auto, Electrical, Civil Service unions are all easily accessible to low cost advertising. Why not talk to us and reach millions of people? Atari, or even Atari outlets, could make a mint by appealing to this group directly and through our own channels. Too many people think of Unions as corrupt organizations composed of people too ignorant to read, let alone operate a computer. Like any large social movement, there are corrupt elements; but they are not the union movement.

Next month, I'll go back to writing tutorials or reviews. If anyone wants a particular subject covered write to me at:

David Barkin
39 East 7 Street
New York, N.Y. 10003

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CompuServe

ST

STaying in Touch

by Michael D. Mortilla

I'm Mad As Hell

(and I'm Not Gonna Take It Any More!)

If you hadn't guessed by now, my column is essentially about CompuServe. An issue that arises from time to time is very important to all users of online services. That is: copyright and the protection it offers. It's interesting to note that there is an apparently opposite role copyright plays, depending on who is making the claim and how they expect to be protected.

On the one hand, copyright is to protect an author so that he/she can collect royalties from his work. There is the presumption that the author *wants* to have his work distributed. On the other hand, there is the claim that the copyright protects the "author" from anyone distributing his work at all, sort of an "I said this but don't you dare say that I said so or I'll sue you" mentality. Apparently, *both* are valid issues to a certain extent, but there are exceptions and intentional "oversights" that you should be aware of when working and playing online. It also doesn't hurt to know (sort of) what your rights are.

Disclaimer: If you have any specific legal issues that need guidance or resolution, you should consult an attorney. It is not the intent of this article to offer legal advice and the views expressed here are the opinion of the author, based on messages in the Atari & MIDI forums on CompuServe.

Pick a Little, Talk a Little, Pick a Little, Talk a Little

Discussions (aka threads) on the subject of copyright are sure to increase the activity in any message area. One of the things that online services have done is exacerbate the copyright laws. Plain old copyright law is complicated enough, but the issues that arise out of online communication is enough to make you mad as hell.

Copyright discussions include issues such as; the uploading of non-public domain music in the form of MIDI standard files; the right to re-print a message (either from area to area within a particular service or *service* to *service* re-posting; the distribution of shareware programs, and a host of "uglier" threads. There seem to be many levels of communication when real people are talking about real issues and a number of psychological defenses come into play between the parties.

It is not unusual for one to hear claims of censorship, conflict of interest, impropriety and downright fraud! At times, the messages are chock full of denial and guilt. Users will resort to the lowest of slurs in their quest to belittle their fellow user. One wonders if the users were talking face to face if they would be as hostile towards each other as they can sometimes be in electronic communications? Let's tackle the plain old issues first. We'll cover the curses on ancestry, sexual orientation, future offspring or the size and performance of one's hard drive . . . later.

Who Is Publishing What?

In one sense, the online services are like newsstands. The person running the stand simply gets publications delivered and distributes them for a fee. The forum members are simply sending in their publication for distribution. In another sense, the online service is publishing this compilation of messages (programs, song files, etc.) and has the right to copyright the service as a whole. The services also have an obligation to "police" the service for "inappropriate" posting, illegal uploads and similar abuses. But, that can be a judgement call at times and what is one person's art is another's persons pornography.

The Road to Hell Is Paved with Good Deeds

The copyrights for specific messages, programs and files uploaded to a service belong to the person doing the posting or uploading. That person is also responsible for the "legality" of the upload, as well, and if you upload "illegal" material, you could be subject to a fine, prison term, or both, if you're caught and prosecuted. The operating instructions on each service will usually inform the users that uploading material that is copyright by another may be a violation of the applicable copyright laws. Nevertheless, it is common practice for protected material to be uploaded and downloaded on a regular basis.

The online services aren't doing anything wrong. They're simply getting their papers delivered to the stand. And the average user probably isn't fully aware of the illicit nature of their act. In fact, it is more an act of generosity and sharing than anything else.

One of my favorite songs is "Twinkle, Twinkle, Little Star." It's also "old as the hills," and even Mozart wrote a set of variations on it. That also makes it free of copyright encumbrances. I can play it wherever I want to, charge admission to the people who ask me to play it for them, and upload it to an online service for a quick shot at fame and fortune ‹g›.

But as soon as I write "an original" melody, *I* am the only one who has the right to play it, publish it, and make a million copies and try to sell them. Now let's say I *do* just that and sell one of the copies to you. Technically, unless I've told you otherwise, you have no rights in the recording except as property in the form of the physical manifestation upon which you received it (tape, disk, paper, etc). If *you* want to distribute copies, you *must* ask me for permission and possibly pay me for that right. There are a number of standardized procedures for obtaining that permission in popular musical compositions. BMI, ASCAP, the Harry Fox Agency, et al, all monitor performance and distribution and collect royalties, which are distributed to authors who are associated with a particular organization. It is unenforced, and essentially unenforceable, to prevent you from making copies for your personal use, and small localized performances are generally overlooked by the large licensing agencies (except where there are profits being made).

In reality, the *best* thing that could happen is that you will distribute copies of my song. As long as my name is still attached to the file somehow, then maybe people will like it and go buy the record from me. That may be one reason the recording industry has not really cracked down hard on the online services. It may be better for the industry to allow the MFF transfers to continue. As a writer or artist, you would want your creative output to be listened to and recognized. Usually, you also want to be the one who is known as the one who "did it first," "said it best," "was the first one there," and that sort of rot.

Tell Me, So I Can Tell Them, & They Can Tell Him & He Can Tell Me

The copyright issue of re-posting messages seems to have the exact opposite goal. Where the artistic copyright is concerned, the right to reproduce is protected because if a profit is to be made, then part of that profit should go to the owner(s) of that intellectual property. The forum member posting a message and attaching a "copyright warning" is, in effect, saying the message may not be re-posted. They are trying to prevent the reader from repeating the original message and one can only guess as to the motivation behind this. There is the high road of "copyright protection" but the underlying motivation seems more akin to gossip, jealousy, envy and a severe lack of confidence.

If I tell you to your face that you have a big nose, I run the risk of losing my own nose. If I tell your significant other that you have a big nose, there's a 99% chance that you will find out and I will still run a high risk of losing my nose. But if you are on service B and I'm on service A and I "post" that you have a big nose, then the chance of my nose surviving increases. And if I write in that message that no one is allowed to use my copyrighted message, then I might believe that you will never know that I think you have a big nose, or at any rate, that I ever said that I think you have a big nose. Eventually, everyone on service A who doesn't know you and reads the message will think you have a big nose. Of course, this is a childish game, and besides, everyone can see for themselves that you don't have a big nose. Can't they?

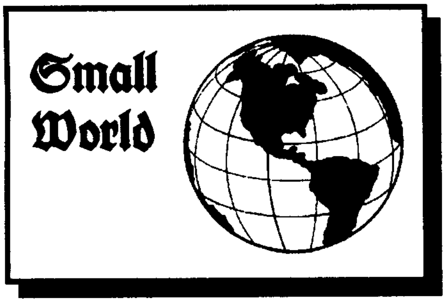
But when the talk turns away from noses and reputations are at stake, then a new set of rules comes into play. Slander and libel may be at issue and now the right to repeat the message becomes critical to your defense. In such a case, would copyright be secondary to slander? What is the more severe of the charges? Doesn't the accused have the right to face the accuser?

Please Pay Me, So I Can Pay Them, & They Can Pay Him, & He Can Pay Me

The issues relating to MIDI are pretty small potatoes when compared to the larger issues being discussed. The MIDI solution is fairly simple. Eventually, some industry standard license agreement will come into play. But this "other thing" is a little more troubling. I was once given the advice to "never put into writing anything that you wouldn't say face to face." Other quotes come to mind, such as "do unto others," "the love you take is equal to the love you make," and "what goes around, comes around." It is so darn easy to hide behind the screen and hurl mud with someone else's phosphorus. But what you reveal is not so much what the other guy has done, but your own phobias, fears and prejudices. If you have cause to react harshly, you have no reason to be meek about it. By all means, stand up and fight. But before you hurl that electronic accusation, stop and think about it. Forget the copyright laws and the buffer in your communications program. Pretend you are face to face with the person about whom you are speaking, about to engage in conversation or debate. One on one! Would you say the same things you would say online?

And Now a Word From Our Sponsors

To change the subject, add Brad Hill to the list of SYSOPs in the Atari forums. Unfortunately, in an earlier column, Brad was left off the list because the online SYSOP roster hadn't been updated to reflect his arrival. Sorry, Brad, but we still love you ‹G›. Also, as this is being written, Atari stocks have jumped for the first time in years! From about 50 cents a share to around three bucks each. At a time when IBM and others are in decline, one can only hope that remaining loyal to the beast has not been in vain.



Cyber

by Dave Small

This is a fictional story involving computers. (Who says that *CN* only runs articles on how Atari is late shipping?) However, you are invited to run the calculations about the brain that are discussed; think about the implications, for they are quite possible....

TO: John Waite
Councilman

EYES ONLY

FROM: Axton Davies
Associate Researcher
Cyber Research Group

SUBJECT: Classified

Priority / Distribution: Urgent
Routing: Courier. Signed Receipt.

Dear John,

I have sent this to you with such priority because of a discovery I have recently made. It requires immediate action on yours and the Council's part.

And here you thought this would be a chatty letter from an old friend! I wish it could be. I had to get your attention in that first paragraph, otherwise, you might put down the letter for a few days, by which time it will be much too late.

As you know, the Council has funded our efforts to produce a computer/spacecraft capable of anticipating and defending against enemy attacks from Rebel craft. As you also know, our efforts have seen fruition; the Cyber series 270 craft is scheduled for operational testing in just two days.

The weapons and artificial intelligence testing done already has been quite positive, as you probably know, and there is strong enthusiasm for this device in both public opinion and in military circles. For the first time, we have constructed a craft capable of engaging a full sized Rebel one-on-one with a good chance of success; a substantial improvement over the small harassing attacks we presently use.

This enthusiasm for the Cyber 270 is why I am not sending this message to you via normal channels, but by courier. As an associate researcher, any other method would be subject to routine security screening, possibly by someone favoring the Cyber project; the urge for revenge against the Rebels has made this a nearly religious issue among some, and the letter might get lost, or just delayed "for further checking." That's why the cover art (did you enjoy it? "top secret" . . . "eyes only". Ha ha.) from me.

I need to tell you of the work I have done and why it affects this entire project. I will attempt to keep my terms nontechnical; please do not feel I'm trying to be insulting if some of the subject matter is already familiar to you. This is so important I can't take a chance on being misunderstood, or worse, seeming to draw an invalid conclusion.

As you know, when we both graduated from Colo-Wy university, 20 years ago, I took a job with CSI. (You, of course, went into politics, and many times I wondered how well you would do. Well, here we are today, you're on the Council, and I'm still fooling with neutron o'scopes.)

Anyway, it's hard to think through the pain drugs they give me here, and I can't think at all without them. Ever had headaches right behind your eyeball? Mine feel like that all the time; it's hard to see.

So when I started at CSI, we had this grant for what turned out to be the Cyber project, to develop a machine with intelligence equal to that of the human brain, particularly with emphasis on its "lateral thinking" and generalizing capabilities. That's because those techniques have proven to be the only way we have ever consistently outfought the Rebels; the enemy still appears to have us beaten in raw computing power.

You recall that project, the "expensive failure?" Well, I don't know if you were ever suspicious enough of how, suddenly, it was dropped to dig into the details, and I also don't know if you could find out what really happened if you tried. But I know. (Of course, God help me if the security people ever find this; this is so classified I doubt you would normally be allowed to see it.)

John, the project did not fail. We found an important fact: The human brain cannot work.

Look, I'm not drugged out. Don't smile tolerantly at me! I remember all too well what your face looked like when you were in a class taught by a teacher you didn't think much of. Let me explain, and you will see why all this stuff was never released; "sensitive" is an understatement. Maybe you won't want to know.

Take a large computer, as we did. Program in the number of brain cells in an average brain. Most of that tissue, by the way, is disconnected. Next, add the interconnection ratio between neurons. Finally, take the speed of neural transmission, right about the same as the speed of sound (1100 ft/sec).

Now look, all this data is in the medical textbooks; we just looked it up and plugged it in. If I sound defensive, it's because the conclusion sounds so wild.

Take these numbers and give them to Degaunse's algorithm for computing network processing power. His theorem is provable, so the results aren't in question. You'll get an answer which gives the human brain's highest possible processing speed.

Next, we determined the speed of the brain empirically. We took a number of volunteers and subjected them to stress testing. Typically, they were led to momentarily believe their life was in danger. The results? A non-scientist would say "his life flashed before his eyes." Afterwards, after we had calmed them down, we had them describe the memories they had recalled and the thoughts they had had in the few seconds before unconsciousness.

The detail was amazing, as was the rate of recall; entire vast memories were recovered in thousandths of a second. Next, we took the most efficient possible encoding for that information, and found out, in computer terms, how much had been recalled in those seconds.

This rate, incidentally, far exceeds what even our best machinery can do in burst transfer mode.

The program tells you "throughput" numbers, but let me put it in words. John, there is no way, by a factor of 2.61 X 10 to the 8th, that the brain can do what it does. That small bag of slow neurons cannot *possibly* think or process data as fast as it appears to. We doublechecked the data. And our conclusions were arrived at independently by two teams using different algorithms. If the numbers were off by perhaps a few hundred times, I'd suspect a statistical error or bad input data, but not by two hundred billion!

Apparently, the brain is not capable of original thought, other than reflexes and some low level machinery. (For instance, if you touch a hot surface, you pull your finger away reflexively; that happens in the spinal cord.) And no one knows why, even with our advanced medical technology, just why a given *source* neuron picks *one other neuron*, out of *thousands* to activate. Sure, I can tell you all about acetylcholine and serotonin and ionization patterns, which is how the transfer happens, but we don't know why that transfer was selected.

So, we dropped the project; we couldn't build a computer that could think like the brain, *because the brain can't think.*

What follows is my personal belief. The brain is a very delicate receiver, very sensitive indeed. A slight outside influence affects which neurons fire through which paths, which conduct thinking, and which can move muscles. A fault in this communication we call a brain dysfunction.

This external influence, for lack of a better word, is the "soul." We *could not find* the origin of the external influence nor shield against it across the electromagnetic spectrum.

Now imagine, the first "scientific" proof that a "soul" *really exists*. Imagine the religious battles that might be fought over such a concept, and you will know why this whole matter was dropped in such a hurry and in such secrecy. Religious wars have always been the most violent and uncontrollable.

I do wonder where the "souls" are that are communicating with this receiver. There's not much else to do here at the hospital.

So. The attempt to imitate a human brain was quietly folded up, and my friends and I were given the choice of job transfer or hypnotic brainwipe. I didn't especially want to change jobs, but neither did I want to lose the knowledge that *I had a soul*. Would you give that up? And it was ten years of my career. (Many of my friends did. Remember Kevet? He was one. Don't expect them to remember; brainwipe works real well.)

So, I transferred to the memory development section of the Cyber project. Five years ago, I began to construct the newest generation of memory chips for the Cyber series craft. My design of memory chips stores data as resonances in the electrons around individual atoms; such resonances are inducible and detectable. They allow us to achieve a memory density one trillion times higher than the refined "transistor" technology we used to use, which is really pretty old stuff. Dates back to the twentieth century.

Well, I did invent the resonant scheme, and if it wasn't wartime, perhaps I would have won a prize for it. As it is, things are kept so secret around here it may never be known. But that might tell you I haven't lost all my marbles.

This memory density makes possible the intelligence and cognitive functions of the Cyber series. Without it, we could not fit the necessary program into a spacecraft; in fact, we couldn't even build a machine here to hold the program, because the heat generated by the memory would melt the chips. (We still don't know what memory the Rebels use, but I suspect a variant on my electron-resonant memory).

Now, this higher memory density per square millimeter also increases the sensitivity to cosmic rays. It is a little known fact just how sensitive computers are to cosmic rays. Why, even the first crude computers of the 1990's, when the personal computer first appeared, could expect one memory fault per day because of cosmic ray interference. [Users at higher altitudes had more problems than users at sea level, for instance, because of air molecule shielding.]

Soon the emphasis on memory research turned to how to deal with cosmic ray "hits." The designers couldn't shield against the higher energy particles that were giving the problems, so all they could do was make up for the damage the particles did. The SECD-ED (Single Error Correction Double Error Detection) circuit was developed, and others like it, to detect "parity errors," memory errors, and correct them, if possible.

We still use the SECDED circuits today. And the cosmic rays are a worse problem than ever! With the higher density memory I invented, we found entire chunks of memory erased where before just one bit might be affected.

My research, starting a year ago, into ray shielding was the result of the Cyber 240 disaster. I'm sure you remember that one; I watched you on the LD when the Council held hearings. Basically, the Cyber 240 depressurized a maintenance craft servicing Skyrocket and killed the many technicians onboard. We later found the problem was the result of cosmic ray interference with the life support and pressurization memories; the random interference happened to be in a pattern that opened an airlock door, bypassing the safety checks.

We had not tested the 240 in full memory configuration, and did not know the extent of memory errors that would occur. In fact, we had predicted about one thousandth the rate that actually occurred. Apparently, the new memories either had a design fault, or were much more sensitive to cosmic rays than I had suspected. I had to find out which.

Dr. Anderson in New Stockholm provided the collapsed metal shielding. His design is quite interesting. First, he pushes atoms together with a powerful electric field. While they are closely together, they resemble collapsed matter's density, particularly against high energy cosmic ray particles. Of course, the atoms push back, and expand, but he takes that energy and uses it to re-compress the atoms, next cycle. The result is a half-cycle collapsed metal shield; half the time, it does a fine job of reflecting high-energy cosmic rays (gamma or X-ray spectrum).

Take two such shields, run them opposite each other so one is always up, and you have pretty good shielding against cosmic ray interference. That's what we did.

In our lab in Great Falls, we set up a twin Anderson shield and a full new one terabyte Cyber 270 series memory unit inside. Then we began running tests, and we were delighted to see the interference was down to a tolerable rate.

But the interference took on an organized characteristic.

There were patterns of what appeared to be deliberate interference with the memory cells. The interference had always been there, but had been blanketed by cosmic rays before, so the patterns didn't show up, much like hearing a whisper next to a waterfall.

We felt the patterns were cross-interference between memory cells, and so we set up a test of the 270 unit. The testing involved the SCIP-12 tracking program, which tracks small objects, predicts their path, then destroys them with a small laser. (It is a standard defense against the "Shon" series of Rebel fusion missiles.)

John, what I'm going to describe next might be a hallucination. I want to say that so you know I am questioning my sanity. I always said that people who were sane were the ones who doubted if they were; being positively sure of your sanity is a sign of going off the deep end.

The SCIP program we tested tracks moving objects via both visual and radar sensors. It then aims a laser in the predicted path of the target object, and fires the laser to destroy the object.

I was working at the memory fault console in the lab. Both Mike and Angela were with me that day. Hell, we'd worked together so many years, since they assigned us as lab partners back at C-W, we could almost think together. Mike was firing the objects through the laser's path, and Angela was on the programming console end.

My console was a dimmed block diagram of the Cyber 270 memory block. Whenever a memory fault would occur, a small flash would show up on the diagram at the exact spot; I was hoping to spot a pattern. (We were getting pretty desperate at this point to find the cause of the interference, and sometimes a good eyeballing will do the trick when computer analysis fails.) What I saw was the green outline of the computer memory, and a very occasional white flash in that outline as a memory cell took a hit.

Mike started zapping the tinfoil objects through the railgun accelerator, and Angela got the program rolling. Everything was working fine for about five minutes; I saw the usual occasional flashes of a memory hit. No patterns. Nothing the SECDED couldn't handle.

Then the whole console lit up white. Memory started changing, and in an organized fashion. I saw blocks shifting around and *changes being made*. If you've ever watched a sorting program work, you would know this was an intelligent re-organization of memory.

I looked for a pattern; I tried to see if adjacent blocks were shifting from leakage, or what. That was the point of the test. I didn't think to close down the power to the memory; that would stop the test. Because I didn't think, it happened.

The laser stopped following the object Mike had just fired in its path. It turned, and kept turning, and turned right past the safety stops; I heard the selsyn motors strain as the stops broke off. The laser went up to full power, too; instead of just incidental flickers in the air, it was a solid pure yellow. The lights above me dimmed from the power it drew.

John, it shot Mike right through the heart. I know it sounds awful. But I have to tell someone. And you're the only friend from the old days I have left.

I froze when I saw that, I admit it. Mike's eyes looked to mine, and he LOOKED at me, and I couldn't do anything but look back. Then he fell. The laser whipped back to the left, and broke off that safety stop as well. Angela had not been as slow as I was. Maybe it was because of all the fencing she did in college? She had pushed the chair she was sitting on backwards, and dropped, down behind the programming console. The chair was still moving backwards from where she had been sitting when the laser burned through the console and got to her, crouched behind it.

This all took maybe a second. I still wonder if there was time for me to react. I don't know. The psych says that I'm blaming myself, but I can't see you or Angela just sitting there while this happened. He says anyone would have hesitated, been shocked, especially in a dull, routine lab test. He says that even hyped up, trained soldiers, in a combat situation, freeze when they see someone die. I don't know. I had time to kill the power and didn't.

The laser snapped back and lined up at me, and a light more purely yellow than anything lit me up. It was beautiful, like fire, so yellow. I still see it sometimes because of the retinal burns. Parts of this paper are yellow to me, and I have to move my eyes to see the words through the yellow patches.

And then it shut off. The chair Angie had pushed crashed into the console behind her, into the uncovered 220 volt power buss bars. We hadn't insulated them because this was just a power-up test run, and so often you have to rewire to get rid of the ground loops . . . anyway, the metal of the chair hit the bars, and there was a big flash, and the circuit breakers cut the power with the fast magnetic switches for short circuits. The laser power shut down just as it switched on to me, and I got perhaps a few hundred microseconds of beam; not enough to kill me.

And then it was all quiet, just the tinkling sound of the laser's casing as it cooled.

I remember the smell the most. It was the skin from my forehead, burned. That smell stayed with me for days. The laser had been trying to burn a hole through my head, and given a half second more, would have succeeded. Angela saved me.

John, look, I know you know about this. The official reports talk about a programming accident and hardware malfunctions, and about how I've flipped out, because of the stress of seeing old friends killed. They say I'm trying to rationalize a possible programming mistake that killed my friend and an old lover.

But that laser did not fire "randomly," to quote dear Colonel Seirs. It fired exactly three times in three exactly lined up shots. Something took over that laser and used it to kill people. The laser went out of its programmed angle of fire, broke off hardware safety stops, and the laser itself was well up past its programmed power. It deliberately killed those two people and missed me only by chance.

The memory shut down when the power went off, and I can't prove it was changed. We never even thought of V-taping the displays, not for just an eyeball check of memory.

But think of this. If there are souls out there, that run our bodies ... then why not accept the whole doctrine.

There could be demons, too. I think the Rebels are demons, John.

All it takes is sufficiently sensitive memory that an external force can control, can influence. Those old computer memories ... well, at best it could screw them up, trying to influence them. But they weren't sensitive enough for *organized effect*. Maybe "those days" we've all had with computers, when absolutely nothing goes right for no reason, were such an attempt.

But the new electron resonant memory is so delicate that it can be influenced in an organized manner. Add to that shielding from the blanketing effects of cosmic rays, so there isn't too much random interference, and you have a receiver to a demon. A chunk of hardware for something truly evil to use.

What if a Rebel is what happens when there's too much sensitive memory and an unsuspected external influence can hook into it, influence it? Just computer research that any civilization might do. It sounds a lot more likely to me.

Soon I'll be blind; the doctors tell me my retinas are bleeding all the time now, and gradually deteriorating. The laser burn I took damaged all the blood vessels in there and they can't be fixed. I have to go soon for another operation, and they suspect blood vessels near my brain were hurt, too, from the heat; they've told me that the stress of the operation could pop one, and I'd be gone before they could do anything about it.

But I also know this.

Out there, at the Lagrange point, is that Cyber 270 weapons system and artificial intelligence. It has 4000 gigabytes of memory and the best weapons we have ever constructed. And that memory is shielded by the Anderson collapsed-metal field. It goes into testing in two days. Everyone knows it is our "best defensive weapon" ever, our "best computer ever." I looked over the design, and there is no way to pull the plug with the redundant power supplies.

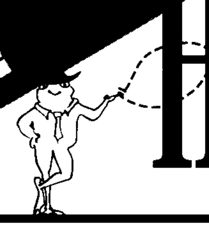
John ... I just wonder whose side it will be on.

Well, they're here with their cart and I have to go to sleep now.

Take care,

Axton

Through Sept. 1!



Hard Drive Bonanza Days

"Saddle Up, Partner!"

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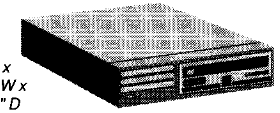

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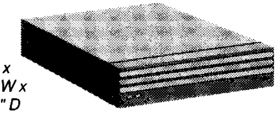
9.75" D

A HOLDS ONE 5.25" DRIVE
2 SCSI CONNECTORS
SCSI IDENTIFICATION SWITCH

TOADSTOR CLOSED FRONT



2" H x
9.5" W x
9.75" D

B HOLDS ONE 3.5"/5.25" DRIVE
2 SCSI CONNECTORS
SCSI IDENTIFICATION SWITCH

TOAD STEALTH

2" H x
10.5" W x
9.5" D

C HOLDS TWO 3.5" DRIVES
2 SCSI CONNECTORS
2 SCSI IDENTIFICATION SWITCHES

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85MB	17ms	Autopark	Quantum	$209	$279	$319
130MB	17ms	Autopark	Quantum	$249	$319	$359
130MB	15ms	Autopark	Maxtor	$239	$309	$349
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2.0GB	10ms	Autopark	Seagate	$1699	$1769	NA
2.4GB	11ms	Autopark	Seagate	$2279	$2349	NA
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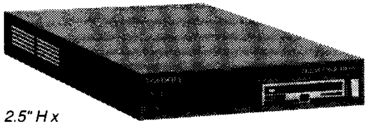

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2 SCSI IDENTIFICATION SWITCHES

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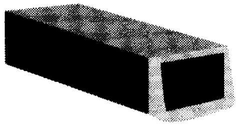

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6.5" W x
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2 SCSI CONNECTORS

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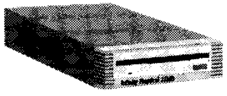

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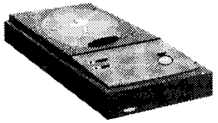

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CD ROM SCSI SWITCH
1 SCSI CONN.
ST ONLY

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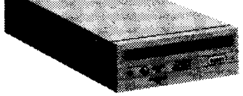

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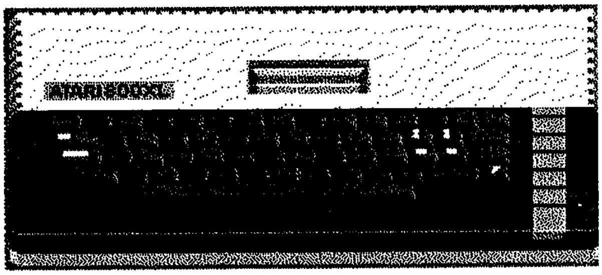

Computer Wargaming Network

Only 10 more days until graduation from Air Command and Staff College (ACSC) and my long-awaited exit from Lower Alabama. It's just in time, too. The humidity is really starting to pick up now. By the time you read this, I should be at my next school in Northern Virginia. I will post that address change in the next issue of *Current Notes*. My wife promises to forward things to me in the meantime.

More on Computer Networking

In the April CN, I mentioned that I was involved with a computer wargaming project here at ACSC and that we were sponsoring a conference. Well, we had the conference and it was a great success. Gary Grigsby gave a talk on the creation of U.S.A.A.F. for the Atari 8-bit. Evan Brooks mentioned the Atari 8-bit in his talk. [Long time readers of CN will recognize Evan as the author of "Battle Bytes," a column covering computer wargames, which appeared in CN from July 1984 through October 1987. -JW] There were several other programmers present who cut their teeth on Atari and have long since moved on to other platforms (sad to say).

I managed to co-chair the technology trends working group for the conference with Dave Walker from Electronic Arts (a proud Atari 8-bit owner). That was quite interesting. There are numerous technologies on the horizon that are going to blow the socks off computer wargaming in the future. Interactive Television is around the corner with Virtual Reality (VR) not far behind. What made things even more interesting for the conference was that the VR mini-series, "Wild Palms," was running that same week. It sure got our imaginations going and stimulated discussion during our working group meetings.

Prior to the conference, I had established topics on GEnie and CompuServe to publicize and answer questions about the conference. In case you're interested, the topics were in GO GAMERS on CompuServe and on Page 935, Category 2, Topic 10 as well as Page 805, Category 9, Topic 28 on GEnie. Most of the conference "arrangements" were actually done on CompuServe and GEnie via e-mail. This whole concept of electronic connectivity was a great hit and got a lot of good press at the conference. Of course, I was just putting into practice the things I've been preaching for the past year in my column. I soon became known as the "ACSC Information Highway Guy," in keeping with the vision of the current government administration. After the conference was over, everyone expected even more on the computer teleconferencing front.

The ACSC Local Area Network (LAN) was recently connected to the Defense Digital Network (DDN). I figured it was possible to send messages between Compuserve, GEnie and the ACSC LAN via DDN and the Internet. After running a few tests, I discovered I was correct. Everyone can now talk to everyone else, whether they are a commercial vendor or a Department of Defense person. I've constructed some extensive computer address lists and sent e-mail to everyone on how to send mail to people on different networks. It's all very exciting and it all started on a "lowly" Atari 8-bit computer.

The long range goal is to establish a bulletin board and library of files on one of the commercial services or on our LAN so that everyone, including commercial interests, can have access to airpower research and wargaming ideas. A student, researcher or commercial wargame company could get into our computer, leave mail for people, check the bulletin board, and download the latest version of an Air Force wargame, possibly through an 800 number or the Internet's telnet feature. It's all technically possible and just requires a little effort to get rolling.

Once again, the "brain" for all this cosmic connectivity is my 130XE.

Elsewhere in This Issue

This month our pages are graced with three veteran CN 8-bit writers. Frank Walters provides the fourth part of his series on TextPRO macros. We have a "mini-theme" on copyrighted program modifications with articles by Tom Andrews and Lee Barnes. Tom and Lee present an interesting concept with practical examples on how to make patches to existing programs.

QWKSilver Update

We had a few typos in Bobby Clark's address back in the February issue. Use the following address to contact him: 469 Wallace Road, Luttrell, TN 37779.

To get the latest version of *QWKSilver* contact the KAUG BBS, node 1:3516/17 on FidoNet for QWKS*-.ARC. A comparison of *QWKSilver* and *PabQwk* is in the works and will be published soon. One of the results of this comparison, which is being done by a person on FidoNet, is that upgrades and enhancements are being made to the programs.

WWIVnet Atari Conference

ATARDIS is the name of the WWIV Atari conference. I know a lot of you probably have access to or already use a BBS that runs the WWIV BBS program. Any WWIVnet SysOp can request the ATARDIS conference, as long as he provides the correct information.

Each conference in WWIVnet has a unique identifier called a subtype. It's usually a 1 to 6 digit number, though the new WWIV net software now supports alphanumerics. You will also need the host system's WWIVnet node #.

ATARDIS's subtype is 165689. The host system, Royal Sovereign BBS, is WWIVnet node 6568. Your SysOp can e-mail the Royal Sovereign BBS SysOp (1@6568) to request the conference, but will need to make a few adjustments to his net files. If your SysOp has a net program called NET32, ATARDIS can be autorequested.

In any event, you can e-mail Brian Enos (SysOp of Royal Sovereign, 1@6568) to get more info. Since ATARDIS is brand new, there are just a few subscribers now, one of which is an Amiga BBS (of all things!) out of Virginia.

The TextPRO Version 5 Story Continues

Slowly, the effort continues. Frank Walters and Charles Cole have volunteered to help out with the review/rewrite of the new manual. Thanks, guys! Ronnie Riche finally has a working 1050 and mailed me the disk with the documentation a few days ago. John McGowan mailed the disk with the original source code back to Ronnie with a few implementation suggestions. So the programming effort is continuing.

Missile Command Tip

In the May/June issue of the *Tyne and Wear Atari User Group* (TWAUG) newsletter, Dave Ewens provided an interesting tip I've never heard before. If you press [CONTROL]_[t] when the main screen appears, you can play *Missile Command* with an ST mouse plugged into port 1.

CN/ST–I Real Time Conference

On the evening of July 14, *Current Notes* and *ST Informer* will be holding a Real Time Conference (RTC) on GEnie. We plan to have members of the Current Notes staff as well as columnists and authors available for "questioning" and comment. This will be a combined ST/8-bit thing, which should be quite interesting. Watch the ATARI8 section on GEnie for more information to include location and time.

ICD/OSS Software Rights for Sale

On 26 May, the following message appeared on CompuServe and GEnie:

ICD is selling the rights to all of our ICD and OSS 8-bit products. If you are interested in any or partials call me at 815-968-2228 ext. 320 or fax at 815-968-6888. Only serious offers please.

Tom Harker, president, ICD, Inc. -

Hopefully, someone will bite on this, soon.

Jeff Potter Update

Jeff Potter is still busy at work programming good things for our Atari 8-bit machines. He's tested the *Maze of Agdadon* program with three computers thus far and is ready to try hooking up a fourth. For a time, he thought there could be a line loading problem with all the wiring between the SIO ports, but that appears to be resolved now. The release date and format (disk, shareware or cartridge) is still unresolved between him and Chuck Steinman (the project leader). I'll be sure to let you know when something happens.

Jeff is also finishing up a program appropriately called *JView*. *JView* will work in GRAPHICS 9/15. It will convert Graphics Interchange Format (GIF) files directly into ColorView format for immediate viewing. He also hopes to work in the routines to provide a screen dump to a printer. Initially, he is planning to use XL banked RAM for the program, which is a real memory hog. This should allow SpartaDOS users to use the program, since it will avoid the RAM under the OS. If you have any other desires or thoughts regarding *JView*, contact Jeff on GEnie at JDPOTTER or leave him a note on the GEnie 8-bit Bulletin Board in the ColorView Topic, where there is a raging discussion going on regarding this subject.

Finally, Jeff is also working on a Tag Image File Format (TIFF) viewer for the our favorite computers. TIFF is becoming a more and more popular graphics transfer format. Unfortunately, Jeff is discovering that all "standards are not standard" when it comes to implementation on various computer platforms. Mac is slightly different than IBM and our Atari would need to read both variations. It's nice to know that there are still a few avid 8-bit programmers out there.

GEnie Rate Changes

Effective July 1, GEnie's rates undergo massive changes. Some of the changes make things more expensive. For instance, the GEnie*Basic package where users, in effect, get free e-mail, will be eliminated.

The monthly fee has been raised from $4.95 to $8.95 ($5.95 to $10.95 in Canada). Some of the changes appear to offset the negative. The non-prime time hourly connect rate drops to from $6.00 to $3.00 per hour ($8.00 to $4.00 Canadian). Four hours of standard connect time access to most GEnie services is now provided free each month. There will no longer be extra Internet fees–sign up or per message.

What does this mean? It is possible to figure out the monetary impact by looking at your billing history, since GEnie provides total hours and billing hours. My dad figured that his bill will triple. BUT, he is a heavy Genealogy RT participant and does a lot of e-mail. I do a lot of e-mail myself. You won't find me typing messages "on-line" after 1 July! The time is right for someone to program an "Alladin" front-end for the 8-bit. People would certainly pay for such a program. The trick to keeping your bill down will be to do as much preparation for each GEnie session while not logged on.

That's all for this month. You can contact me via the snail mail or e-mail addresses listed at the front of the magazine.

★ ★ ★ ★ ★

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- AtariUser 11/92

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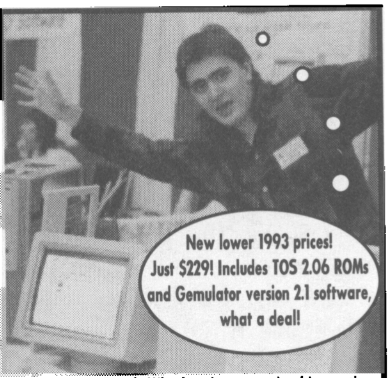

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HATS OFF, TOAD

Toad Leads Where Atari Should Have

by Frank Sommers

The article below had to wait until its author was no longer ST Editor of *Current Notes* and, thus, might be judged as "prejudiced" about a major *Current Notes* advertiser. (In fact, it is just those advertising skills that precipitates this piece.)

A Small Store, a Sizeable Force

A small computer store in Saverna Park, Maryland has a huge nation-wide Atari mail order business. How does that happen when most Atari dealers have closed their doors or are switching to IBM compatibles?

The answer is people, three people. Three who know how to market a product with considerable skill. People who know how to service a product and service the customer, effectively, efficiently, and ever so pleasantly. Now how does that compare with Atari Corp.? You answer. I'd say on all three counts, Atari struck out. And that's why Atari's stock slipped as low as 50 cents a share two months ago and now is consistently valued at less than $1, from its high of more than $20?

The head of the operation is David Troy. He's guilty of, among other things, having married his receptionist, Jennifer. The guts of the service operation is Ray.

But you ask, "What is so unique about Toad?" Or those of you who didn't read the first Toad catalogue may ask that. A quick perusal of that mail order catalogue told you more about Atari products and third-party peripherals and programs than you might learn in a year of attending user group meetings. Dave wrote it, and with loving care. He didn't merely tout his products and prices. Rather, he tried to educate buyers about their needs. An example. "It occurs to me, as I create this catalog of vitality, that lots of people don't know how ST RAM works, and that it would be a real public service if I explained it. It goes this way. . . ." And he devotes about 500 words to the topics, concluding, "Speed of RAM is also an issue, but not typically on the ST. Faster RAM will not make your ST go faster. Buying RAM faster than 100 nanoseconds (80 ns or less) is unnecessary and pointless. Stick to speeds of 100 or 120 and you'll be OK. Even 150's will usually work flawlessly. So, that's the scoop with ST RAM. And as with most things, it all boils down to common sense." Common sense is what that catalogue and his subsequent spring and summer issue of last year was all about. It might be summed up in a paragraph in the first catalogue, talking about PC emulation, "I am a minimalist. That means I don't seek "means" and then lie awake to dream up "ends" to utilize those methods. Rather, I envision what I want to do and then find the best and cheapest way to accomplish that task. And that's what any sane person would do for just about any problem, whether buying lunch at McDonalds to satisfy his hunger or buying a minivan to haul kids or lumber. They act to meet their needs. So far, I have had absolutely no need for a PC emulator or PC clone. . . ." And service? One of the major problems with a "downed" Atari used to be where you could turn, and to whom. Dealers had difficulty inducing Atari to replace defective machines, or repair them, if it was beyond the dealer ken and skill. Ray, at Toad, has changed all that for customers within his reach, by mail or car. The turnaround is speedy, the quality and durability of repair is excellent and the price is fair.

But what now? If Atari had followed the Toad pattern of marketing, service and instant repair the question would answer itself. The FALCON would be flying and Atari would enjoy its niche in the exploding world of computers and interactive devices. Alas, whispers in the corridors lead us to believe Atari will not back the new FALCON with a major ad campaign. Reason? It isn't price competitive, i.e. won't sell. To tighten the knot, they have also deigned that only a rare FALCON will be sold by mail order, and with Atari's signed approval. Hat's on, Atari. You've done it again.

Toad, if they had only had a glimmer of the glimmers you have had on how to sell computers. If only! Hat's Off, Toad. Superbly done!

— Jennifer — *— Ray —* *— David —*

The three who make it possible.

Distributing Program Modifications

Whys and Hows, Ins and Outs, Do's and Don'ts

by Thomas J. Andrews
GEnie: J.ANDREWS24

One of the best ways to develop programming skills is to modify existing programs to better suit your own uses. For example, you might add command codes for your printer, or reformat the output, or add a completely new feature. In this article, I'll give you a BASIC program that will help you separate modifications from original BASIC programs so you can distribute them legally. I'll also provide some tips on how to distribute modifications successfully, by properly documenting them. Finally, I'll give a few examples of how I've been successful using this technique. First, let's discuss what is involved legally with modifying copyrighted programs.

Legal Implications

It's perfectly legal to modify copyrighted programs, as long as you don't distribute the modified version to others. Non-copyrighted public domain programs may be modified and distributed freely, but modified copyrighted freeware, shareware, magazine, and commercial programs cannot be distributed without the copyright owner's permission. This, of course, is meant to give the copyright holder control over the distributable form the program takes, and to protect him from piracy, a very serious problem.

But (there had to be a BUT, didn't there?), the copyright only covers the original work; it doesn't extend to the modifications themselves. The author of the modifications owns the rights to them, and he can distribute them as he sees fit, as long as he doesn't distribute the original programming with them. This means that he can create a program that performs the modifications on the original software, thus allowing the end user to create the modified version. The modification program itself can be distributed however he wants. The potential user of the modified program must acquire the original through regular channels to make and use the modified version.

Please note that by modifications I mean real, significant modifications. Trivial changes like simple renumbering or variable name changes are *not* significant. If trivial changes like those are distributed without the copyright owner's permission, it would generally be considered piracy. This article is in no way meant to encourage such activity or to undermine the rights of software developers. It is meant to encourage the distribution of real improvements to the existing 8-bit software base, much of which is not likely to be improved any other way.

What Do You Need?

With most BASIC programs, all you have to have for a modifier program is a LIST file containing the program lines that need to be inserted, replaced, or deleted from the original. This file is to be merged with the original via the ENTER command and the resulting modified file is SAVEd to a new file.

Sounds simple enough, doesn't it? Well, it is, *if* the modifications aren't too extensive, and *if* you did them just recently. If you use your modified version for awhile before deciding it would be worth distributing to others, or if your modifications are quite extensive, it can be difficult to pick out the changes. You might easily miss something important.

Help Is on the Way!

EXTRACT.BAS, the short BASIC program listed in Table 1, can help. It will compare LISTed files of an original BASIC program and modified versions of a program, extract the modifications, and put them into a third file. This third file, when ENTERed into the original program, produces the modified version. If you don't want to type in the program from Table 1, you can find it on GEnie as file #6410 (EXTRACT.BAS) or on CompuServe in Library 3 as EXTRCT.BAS.

EXTRACT will work with Atari 8-bit BASIC and TurboBASIC XL programs. It should work with any BASIC that uses the general format of Atari BASIC: lines no more than 140 characters long; and line numbers on each line, in ascending order, and separated from the statements by at least one space character.

Because EXTRACT must have the line numbers in ascending order, both the original and modified versions should be LISTed from the particular BASIC involved, and the same BASIC should be used for each. TurboBASIC XL listing indentations will be eliminated, as the versions are read into EXTRACT, and won't appear in the resultant modifier file.

Be absolutely sure that you give the correct file names for the original and modified program listings when you use EXTRACT. There is no way to make it tell the difference for you. If you don't specify a device, D1: will be used as a default. It's also best if you make copies of the listings of both the original and the modified versions on a separate disk and work from the copies rather than from the original versions. This is to remove the slightest chance of destroying either version with this program.

Be sure to leave the resultant file intact as it is produced by EXTRACT. The file may contain line numbers for the lines in the original program that are to be deleted, and if you ENTER the modifier file to do some kind of editing on it, then LIST the result, those line numbers will be lost. Make all your changes in the modified program *before* using EXTRACT.

All Done?

Now that you've extracted the modifications, you're ready to distribute them, right? No, not quite. There's one more vitally important step. You need to write some documentation.

This can be the hardest step for some programmers, but it's really not so difficult. First, choose a word processor that will allow you to adjust margins and print to a disk file. *AtariWriter Plus*, *Paperclip*, *TextPRO*, and *Speedscript* are all good choices, and there are others. If you don't have one, *TextPRO* is available from most PD sources.

Use the right and left margin commands to set the line length of the finished documentation. If you intend for the docs to be read from the screen, a line length of 37, with no left margin, is best. If it is to go to a printer, the default settings of the word processor should work just fine. Screen documentation should also have the top and bottom margins adjusted so that no paging occurs.

OK, So What Do I Write?

What you write depends on what you're documenting, but there are some basic things that should be included. Most of these should be included in docs for completely original works, too.

If you want your work to have any protection at all from alteration, you should include a copyright statement, both in the doc file and the program. The program statement should be in addition to and after any that is there by the original owner, and need only be a single REM statement. An example:

```
50 REM XMM801 PRINTER DRIVER MODIFICATION COPY-
RIGHT 1993 JOHN DOE.
```

The documentation need only have the word "copyright" or the "(c)" symbol, the date, and the name of the copyright holder. The modification identification, of course, should have been up in the title line.

Following the copyright statement, you should have a sentence or two about distribution. If you intend to put this into the public domain as freeware or to market it as shareware, a statement that the program and documentation may be freely distributed as long as they are unaltered and remain together is sufficient.

Next, you should include a brief description of what your modification does and any hardware that is needed. Be sure to fully identify the program you're modifying, including the title, version number, source, author, and copyright owner.

Include complete installation instructions. Remember, some of the people trying to use this modification won't know a thing about programming. Take the potential user through the process, step by step, and be *clear*. Be sure to caution the user about backing up the original *before* he attempts the modification.

When writing the operating instructions, be as clear and as complete as possible. Don't copy the original manual; remember, it's copyrighted, too. Short quotes are OK, as long as the source is acknowledged. It's also a good idea to include a method whereby users with questions can contact you. (This is essential for shareware programmers!)

Aren't We Done Yet?

When finished, be sure to proofread the docs carefully. Go over them several times, checking for grammar, spelling, and punctuation, as well as content. Finally, use the word processor's PRINT command to create the finished form in a disk file. Use a .DOC or .TXT extender on the file name to identify it as documentation. Then, go back to the program and give it one last thorough test. Throw everything you can think of at it to try to make it crash. Make absolutely sure it does what you say it does.

Give a copy to a friend (but don't violate that copyright!) and ask him (or her) to check it over. Sometimes a different person will spot a problem you would never find by yourself.

Ah, At Last!

After all this is done, you can finally start distribution. The major networks, like GEnie and CompuServe, are a good place to start. Uploading programs to many of them is free. Some may even give you a credit for uploading. A local BBS or user group that supports the 8–bit is another good place to begin. If you don't have a local club, you can probably find the address of one either here in *Current Notes* or in *Atari Classics*. Send a disk with your modification file and docs to one or more of those clubs. If your mods are something that would become popular, they'll quickly spread from one of these places.

When preparing for uploading to a major service or BBS, remember the downloader's wallet. Downloading costs money on GEnie and CIS, and long distance BBS callers have expenses, too. Use an ARC utility (I recommend Bob Puff's SUPERARC) to compress the modification and doc files into one compact file, and use an .ARC extender to identify it as such. Don't include DOS.SYS or DUP.SYS or other things like *Tur-*

boBASIC that others are either likely to have already, or can get easily. If the original program can be freely distributed, you can upload that, too, but put it in a separate file. Make sure you indicate to the system operator (SysOp) that that file is the version for your modifications. He may already have another version on file and might not post yours if you don't.

Examples

As of this writing, I've used EXTRACT.BAS and the documentation techniques I've described here to produce two modification programs, which are available on GEnie, CompuServe and my local BBS (ACE of Syracuse Backstairs BBS, 315–458–0118).

The first is a modification to *RATLIST*, a program by Matthew Ratcliff from the March 1985 *Antic* magazine. Matt's program prints files on an Epson MX or Gemini 10X printer using Atari GRAPHICS 0 fonts in any of three print densities. It was designed primarily for program listings, since it would print any ATASCII character. My modification adds additional capabilites to the Epson driver and a driver for the XMM801. It also allows printing on either continuous paper or pause for single sheets. A third linefeed size is added to the original two, and a procedure is outlined whereby both sides of continuous paper can be used. It can be found on GEnie as file #6350 and on CompuServe in Library 3 as RATMOD.ARC.

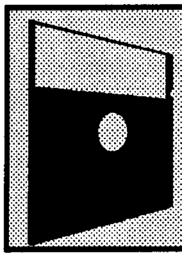
The other is a modification to *Billboard*, a marvelous shareware program by Chris Wareham of Spearfish, South Dakota. His program will print GRAPHICS 7+(15), 8, and 9 pictures in *any* size (even multiple sheets) on an Epson FX compatible printer. A modified version of this program was included with Roy Goldman's *Daisy-Dot II*. My modification adds Gemini 10X and Atari XMM801 drivers, and can output to a disk file in either ATASCII or ASCII. ASCII files could be uploaded and reproduced by printers on computers other than the Atari 8–bit. I included two modifier files in this package: one works on the original Wareham version, and the other works on the Goldman version. You can find it on GEnie as file #6351 and on CompuServe in Library 3 as BLBMOD.ARC

Summing Up with a Challenge

The development of the 8–bit software base has slowed to a crawl. Fewer and fewer people are writing for our machines, and that's sad because the full potential of the 8–bit has yet to be realized. We need new programmers with new ideas. As you have read in this article, you don't have to write a whole program to support the software base. You don't have to do something completely new and different. Just doing something in a better way or allowing more users to do it is a big help. To have your work used and appreciated by others is a feeling like no other. Please, whatever you can do, just get started!

Table 1. EXTRACT.BAS Prg Listing

```
0 REM EXTRACT-A MODIFICATION EXTRACTOR
20 REM by Thomas J. Andrews
30 REM
40 DIM OLNE$(140),MLNE$(140),FNO$(20),
FNM$(20),FNL$(20)
50 GRAPHICS 0:POSITION 5,0:? "PROGRAM
MODIFICATION  EXTRACTOR"
60 POSITION 18,1:? "by":POSITION 11,2:
? "Thomas J. Andrews"
70 ? :? :? "Default Drive--D1:"
80 ? :? "File Name for Original Versio
n?":INPUT OLNE$:FNO$="D1:"
90 TRAP 100:IF OLNE$(2,2)=":" OR OLNE$
(3,3)=":" THEN  FNO$=""
100 FNO$(LEN(FNO$)+1)=OLNE$
110 ? :? "File Name for Modified Versi
on?":INPUT OLNE$:FNM$="D1:"
120 TRAP 130:IF OLNE$(2,2)=":" OR OLNE
$(3,3)=":" THEN  FNM$=""
130 FNM$(LEN(FNM$)+1)=OLNE$
140 ? :? "File Name for Modifier listi
ng?":INPUT OLNE$:FNL$="D1:"
150 TRAP 160:IF OLNE$(2,2)=":" OR OLNE
$(3,3)=":" THEN  FNL$=""
160 FNL$(LEN(FNL$)+1)=OLNE$
170 GRAPHICS 0:POSITION 2,7:? "Please
make sure Disk(s)  are in":? "Drive(s)
, then Press RETURN"
180 INPUT OLNE$
190 TRAP 420:CLOSE #1:OPEN #1,4,0,FNO$
200 TRAP 430:CLOSE #2:OPEN #2,4,0,FNM$
210 TRAP 40000:CLOSE #3:OPEN #3,8,0,FN
L$
220 GRAPHICS 0:POKE 752,1:POSITION 10,
10:? "Checking Line  #":FLO=0:FLM=0
230 GOSUB 280:GOSUB 340
240 POKE 77,0:IF OLNE$=MLNE$ THEN 230
250 IF OL=ML THEN PRINT #3;MLNE$:GOTO
230
60 IF OL<ML THEN PRINT #3;OL:GOSUB 28
0:GOTO 240
270 PRINT #3;MLNE$:GOSUB 340:GOTO 240
280 TRAP 330:INPUT #1;OLNE$:TRAP 40000
290 L=6:FOR I=1 TO 5:IF OLNE$(I,I)=" "
 THEN L=I:I=5
300 NEXT I:OL=VAL(OLNE$(1,L-1)):POSITI
ON 26,10:? OL
310 IF OLNE$(L+1,L+1)=" " THEN OLNE$(L
)=OLNE$(L+1):GOTO 310
320 RETURN
330 OLNE$="40000 ":OL=40000:FLO=1:IF F
LO AND FLM THEN 400
340 TRAP 390:INPUT #2;MLNE$:TRAP 40000
350 L=6:FOR I=1 TO 5:IF MLNE$(I,I)=" "
 THEN L=I:I=5
360 NEXT I:ML=VAL(MLNE$(1,L-1))
370 IF MLNE$(L+1,L+1)=" " THEN MLNE$(L
)=MLNE$(L+1):GOTO 370
380 RETURN
390 MLNE$="40000":FLM=1:IF FLM AND FLO
 THEN 400
400 TRAP 40000:POP :CLOSE #1:CLOSE #2:
CLOSE #3:POSITION  15,5:? "DONE!"
410 POSITION 10,20:? "Press RE-
TURN";:I
NPUT MLNE$:POKE  752,0:GRAPH-
ICS 0:END
420 GRAPHICS 0:? FNO$;" DOESN'T
EXIST!
":? :? :? "Press  RETURN":INPUT
MLNE$:
GOTO 50
430 GRAPHICS 0:? FNM$;" DOESN'T EX-
IST!
":? :? :? "Press  RETURN":INPUT
MLNE$:
GOTO 50
```



Disk Master Modification

Making a Good Program Even Better

by Lee Barnes

Disk Master, copyrighted program written by Barry Kolbe and Bryan Schappel, is a combination sector editor and disassembler. *Disk Master* appeared in the July 1989 issue of *ANALOG Computing*. A copy of this program was in my local Pikes Peek and Poke Atari Computer Enthusiasts (P3ACE) disk library. It only works with Atari–type DOSes like DOS 2.0, DOS 2.5, or OS/A+. After looking at *Disk Master*, I decided I could modify it to meet its full potential. But, distributing a modified copy of a copyrighted program presents a dilemma. So, I created DSKMAMOD.OBJ, which alters an original copy of *Disk Master* to give it several enhancements.

My modification changes the disk write section such that *Disk Master* does not create a text file larger than around 211 sectors. This way, my wordprocessor loads smaller sections of the disassembled file, which can then be linked back together for printing or other purposes. Allow me to explain how that works.

When the program makes four jumps to DOS's PUT routine, the file is closed, the filename is incremented and a new file is opened with the new filename. The increment filename routine increments the last letter/number in the filename. The result: you now have a disk disassembler that does not create one huge file that won't load into your wordprocessor *and* you get to continue disassembly onto as many disks as necessary. The disk editor is also much improved and is quite powerful. You can now press the [HELP] key to see your command choices while in the disk editor. My modification supports unmodified Atari 8–bit computers and single drive systems.

I didn't have the issue of *ANALOG* that featured this program when I started to use *Disk Master*, so I had to figure out how it worked by experimentation and by examining the source code. I actually disassembled *Disk Master* with *Disk Master*. (Sounds kinky, eh?) In the process, I wrote my own manual, which I'm told is more extensive than the two–page article that appeared in *ANALOG*. Naturally, my manual includes how to use the modified program. The manual is ARCed with the modification.

The way you modify the original *Disk Master* may seem a bit strange to some. Since *Disk Master* is an assembly language program, I had to use a few tricks to make making the modification easy. How many of you have used option "n" with AtariDOS? That is the one that creates a MEM.SAV file. You also get to use option "k," which saves a binary file, after you load the original program and the modification. Instructions for making the modification are included in the program ARC. (Including the address parameters for when you do the binary save, of course.)

If you can't get *Disk Master* to work with your Atari–type DOS, send me your DOS and a couple of bucks and I'll try to rewrite my code such that you will get protection from overwriting a disk. I can also make *Disk Master* write larger or smaller files in around 52 sector amounts. If I can't customize my modification to do you any good, you will get your disk and money back.

The original program *Disk Master* is available on the 8–bit section of GEnie as File #6412 (DISKMAST.ARC) and on CompuServe in Library 3 as DSKMAS.ARC. The modification, instruction and documentation is available on GEnie in File #6413 (DISKMOD.ARC) and on CompuServe in Library 3 as DSKMOD.ARC.

I have placed no restrictions on DSKMAMOD.OBJ. It is shareware. If you find that you actually use it a lot, I would appreciate a $5 token of your appreciation, but otherwise you owe me nothing.

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```
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G9-Why "Mu
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Writer Eli
predecesso                          me into
being, it                           NEW
version of                          d to
work in th                          onment.
We scrappe                          e and

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^⇩     Down One Page
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Free:  344795          Line:   1 Column:   1
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```

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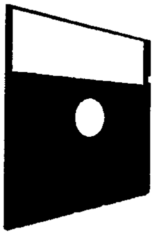
TextPRO Macros: A Guide for Beginners



Part 4

Menu Directory Branch Special Macro

by Frank Walters

[Editor's Note: This is the fourth installment of our four part series on TextPRO macros. Frank has been beavering away at his keyboard lately, so the fifth part of this four part series will appear next month. ‹grin› -RR]

Where Are We?

In Part 3, we discussed all of the special macro command keys, which were inverse control characters: A, E, G, I, K, P, R, and Y. I skipped [ESC] <[CONTROL]_[M]> indicating it was a bit complicated. Now you'll see what I meant.

Why the Big Deal About One Special Key?

I had more trouble figuring out how to use this special macro key than any other function of macros. It can be very tricky and you can get yourself lost as you sometimes do when using GOSUB with IF/THEN statements in BASIC. If you don't program BASIC, it could even be more confusing. I still get lost sometimes with the Menu Branch.

What is This Key?

[ESC] <[CONTROL]_[M]> selects the Menu Branch function within a macro set. To review the keyboardology, you must press [ESC] first, then hold [SELECT] for inverse, then press [CONTROL]_[M] to type the character. It will look like a small white box on your screen.

What's So Special About It?

It is a very powerful macro key that allows the user to optionally branch to any number of macro keys available by just pressing a single key without [OPTION]. When the Menu Branch is invoked, if a key is pressed that has no defined macro key (an illegal keypress), then the current macro continues after the keypress and no branch takes place. If the next item following the [ESC] <[CONTROL]_[M]> is the definition of another macro, then the macro simply stops after an illegal keypress, which may not be desirable. Also, when one of the selected macro keys is pressed after the Menu Branch command, once the selected macro key is executed, the branch returns to the next key AFTER the Menu Branch command, and whatever (if anything) follows the Menu Branch is executed at that time. This is what can get confusing when using this function.

Key Board Conventions:

Keys on the keyboard are surrounded by brackets. [START] means the START key. Inverse characters are bracketed by "less than" and "greater than" symbols. <=> means inverse =, which is entered from the keyboard by first holding down [SELECT] then typing the [=] key. Multiple key strokes are indicated by an "underline" symbol or _ connecting the indicated keys. [SELECT]_[CONTROL]_[A] means first hold down [SELECT], then hold down the [CONTROL] key and while holding down both of those keys, press [A]. This series of keystrokes is also represented by <[CONTROL]_[A]>. "CONTROL" characters must be entered into the TextPRO editor by pressing the "Escape key" or [ESC] first. (Note: to help identify keyboard keys, I have also used a different font as shown above. –JW)

Think of it like GOSUB and RETURN in BASIC. [ESC] <[CONTROL]_[M]> is the GOSUB. User picks the "line number," in this case, which macro key to GOSUB to. At the end of that macro key, it RETURNs to the statement (or character) following the [ESC] <[CONTROL]_[M]> Special command and continues from there.

How Do I Use the Menu Branch?

[ESC] <[CONTROL]_[M]> will automatically print to the status line whatever you type following the Menu Branch key. Your "prompt" must end with a [RETURN]. Normally, you list the macro keys you have available to choose from the menu. I recommend using inverse characters to highlight the available macro keys. Number keys are easy to use and simpler to define as macros since there is no upper/lower case to worry about. Look at the following example:

```
#<=>[ESC] <[CONTROL]_[M]><1>-Print <2>-Skip
<3>-Repeat  <4>-Quit[RETURN]
```

The first thing we must think about is what happens if 1, 2, 3, or 4 are not pressed? One way to "trap" an illegal key is to continue following the Menu Branch with a "GoTo" back to the Menu Branch macro function, as shown below:

```
[ESC] <[CONTROL]_[G]>#(no Return needed)
```

So any key other than a defined macro key will go back to the prompt again. [See CAUTION later in this section.]

Also, after executing 1, 2, 3, or 4, the Menu will be displayed again because *TextPRO* will RETURN from any of the defined keys to the "GoTo" statement. When this technique is used, you must include an option to quit or exit the loop. [HELP] (?) is usually defined to exit back to TEXTPRO.MAX and in the above example you can link macro key 4 to "GoTo" the [HELP] or (?) key as follows:

```
4<=><CTRL G>??<=>CTRL VTEXT-
PRO.MAX
```

"4" could load `TEXTPRO.MAX` directly, bypassing use of `?`, but for standardization of all my disk macro files, I always define `?` to reload `TEXTPRO.MAX`. Besides, the Menu Branch may only be a small part of this particular macro and the HELP key might be used to terminate at another point in the macro. You would then go on to define 1, 2, and 3 keys for whatever you intended for this macro.

CAUTION: Using the "GoTo" back to the Menu Branch macro immediately after the menu prompt makes it almost impossible to break out of the loop except by loading another macro file from disk or hitting the [Break] key, which is messy. So don't use this technique if you want to have other functions besides the Menu Branch in your macro set. Having the [START] (#) key define the Menu Branch makes it easy to get back into the loop if you hit an illegal key to end the loop by mistake.

CR.MAX

```
<i><=>[ESC] <[CONTROL]_[Y]>  Active Macro: CR.MAX[RETURN]
?<=>[ESC]  <[CONTROL]_[P]><i>[CONTROL]_[V]TEXTPRO.MAX[RETURN]
@<=>[ESC] <[CONTROL]_[Y]> Press START to replace  C/R[RETURN]
#<=>[ESC] <[CONTROL]_[F]>[ESC][ESC]<[ESC]> [RETURN]
[ESC] <[CONTROL]_[C]>[SPACE][RETURN]
[ESC] <[CONTROL]_[G]>f (no return)
f<=>[CONTROL]_[F][ESC] <[CONTROL]_[M]> <Y>es  <N>o  <D>own  page
    <Q>uit [RETURN]
[ESC] <[CONTROL]_[G]>@ (no return)
Y<=><[CONTROL]_[G]>yy<=>[CONTROL]_[C]<[CONTROL]_[G]>f(no  re-
   turn)
N<=><[CONTROL]_[G]>nn<=>[CONTROL]_[F][CONTROL]_[F]<[CONTRO
   L]_[G]>f(no return)
D<=><[CONTROL]_[G]>dd<=>[ESC] [CONTROL]_[=](x18)
   [CONTROL]_[H]<[CONTROL]_[G]>f(no return)
```

STOP, I'm Confused Already

Are only the keys shown in the menu the ones you can choose? No. You show the macro keys you want the user *to pick from*, but all macro keys defined in the macro file are legal keys and can be used from the Menu Branch prompt. They would execute and return to the point following the `[ESC] <[CONTROL]_[M]>` statement.

Could You Give Another Example?

Type in the example shown in the box above and save it as CR.MAX so we can step through it step by step.

`CR.MAX` is a macro I made to selectively remove Carriage Returns (C/R) and replace them with a space. I use it to unformat messages captured in 80 columns where I don't want the Returns removed from the headers or between paragraphs. It doesn't use the "GoTo" loop back to the Menu Branch command so I can break out easily to edit and then return to the Menu with `[START]`. I begin by defining the macro name with ‹i› so it can be printed to the prompt line. If the previous macro pre-selects `<i>` for execution, then the name of `CR.MAX` will be displayed in the status line after it loads. I then define the `[HELP]` key `(?)` to re-load the default macro. Notice that I also preselect `<i>` to execute prior to loading `TEXTPRO.MAX`. That way after `TEXTPRO.MAX` loads, the `<i>` macro in it will execute, loading the name of the macro (`TEXTPRO.MAX`) into the prompt line. Using `<i>` in this way with pre-selects is pretty much a TextPRO macro "standard."

```
<i><=>[ESC] <[CONTROL]_[Y]>Active Macro:
   CR.MAX[RETURN]
?<=>[ESC]  <[CONTROL]_[P]><i>[CON-
   TROL]_[V]TEXTPRO.MAX[RETURN]
```

Next I define the automatic macro to display an appropriate prompt.

```
@<=>[ESC] <[CONTROL]_[Y]> Press START to re-
   place  C/R[RETURN]
```

After the `[START]` key is pressed, I "select find string" as `[RETURN]` and "select change string" as `[SPACE]`.

```
#<=>[ESC] <[CONTROL]_[F]>[ESC][ESC]<[ESC]>
   [RETURN]
[ESC] <[CONTROL]_[C]>[SPACE][RETURN]
```

Getting that `[RETURN]` character into the command line is a complicated process as you can see from the key presses required above. On the screen you'll see a regular Escape character followed by an inverse Escape character.

Now I'm going to tell the macro to go to a "dummy" macro key, "f" (for find). This way I can loop back into the main "Find" section of the macro without having to redefine the "select find string" and "select change string" each time I move to another C/R.

```
[ESC] <[CONTROL]_[G]>f (no return)
```

Now comes the Menu Branch Command. First we execute the "find," then display the options as to what to do with the C/R we found.

```
f<=>[CONTROL]_[F][ESC] <[CONTROL]_[M]> <Y>es
    <N>o <D>own  page <Q>uit [RETURN]
```

`<Y>`, `<N>`, `<D>` and `<Q>` respresent inverse characters once again.

The next line tells the macro to simply display our starting prompt in case of an illegal keypress. That is, we execute the automatic macro.

```
[ESC] <[CONTROL]_[G]>@ (no return)
```

Now I define the ‹Y›es key for both upper and lower case, do my "replace found string" and then go back to the beginning of the main "Find" macro, the dummy "f".

```
Y<=><[CONTROL]_[G]>yy<=>[CONTROL]_[C]<[CON-
    TROL]_[G]>f(no  return)
```

The 'N'o macro key follows immediately after the "f," above, since there is no `[RETURN]`. Note that we define upper and local case again below:

```
N<=><[CONTROL]_[G]>nn<=>[CONTROL]_[F][CON-
    TROL]_[F]<[CONTROL]_[G]>f(no return)
```

The Find function is funny. When you use it successively, it goes from one C/R to the next. But in the macros, you need to send the `[CONTROL]_[F]` twice, since the first one finds the C/R your cursor is sitting on. The second `[CONTROL]_[F]` moves to the next one. In the case of ‹Y›es, the C/R is replaced by a space so you don't want the extra `[CONTROL]_[F]`. It is sort of like using `[CONTROL]_[F]` in the editor, then pressing another key, like `[CONTROL]_[U]`, and pressing `[CONTROL]_[F]` again. After the `[CONTROL]_[U]`, the "find string" function looks starting at the cursor position, since it forgot you already found that character before. Try it and you'll see what I mean. Note that we still loop back to the main "find" macro (f).

Now for the `<D>`own page. This is useful when your cursor gets to the bottom of the screen and you can't see below it to tell if the C/R picked is the end of a paragraph or not. Best not to scroll too far or you may scroll some lines off the top. I use about 18 `[CONTROL]` cursor down characters. That's what the `(x18)` is all about. Do the `[ESC] [CONTROL]_[=]` series of key strokes 18 times (or copy them). I then "Home" cursor to top of screen and begin "Find" again as shown below:

```
D<=><[CONTROL]_[G]>dd<=>[ESC]
    [CONTROL]_[=](x18)  [CONTROL]_[H]<[CON-
    TROL]_[G]>f(no return)
```

Finally, we come to the `<Q>`uit. Since we may only want to edit something and not re-load the default macro, I just don't define `<Q>`uit so it goes to the automatic macro `(@)` message following the Menu Branch command, just like an illegal key.

The problem I have with this macro set is that it uses a lot of Menu Branches whenever one answers `<Y>` or `<N>` to remove or skip to the next `[RETURN]` character. Each time, the `<Y>` or `<N>` macro uses a GoTo back to the `# [START]` macro and the macro return is not executed. Eventually, when you `<Q>`uit or hit an illegal key, all those returns are executed in succession, flashing the `Press START` message on the status line until the same number of returns are executed as the number of keys I had pressed from the menu. Oh well, I just hit [Break] and press on until I figure a better way.

Are Those All the Special Macro Command Keys?

Included in Parts 3 and 4 are all 9 special macro commands. There is one other key that is primarily for macro use but can also be used from the editor. It is not an inverse `[CONTROL]` character. I am talking about `[CONTROL]_[T]`.

Try `[CONTROL]_[T]` from the keyboard and you will see the prompt:

```
Set [M,R,I,T,A,U,L]: RETURN to exit
```

Used in a macro, you can set certain "Toggle" modes to insure your macro commands are going to function correctly.

M - Selects Main bank. If you want to ensure you are in a specific bank, then use `[CONTROL]_[T]` once, followed by `[M]`, then `[SELECT]_[CONTROL]_[B]` to switch to Bank 1, or add a `[CONTROL]_[B]` to switch from bank 1 to 2.

R,I - `[CONTROL]_[I]` Replace, Insert Mode.

T,A - [Atari Logo key] Text, Atascii Mode.

U,L - [Caps] Upper, Lower Case.

What Keys Cannot Be Defined As Macros?

I can't think of any keys that could not, theoretically, be defined as macro keys by using the inverse `<=>` key. I thought maybe the `<=>` itself might be difficult but I tried it and it works. There is a problem if the `<=>` is defining itself unless it is the very first character in the macro file.

The `<=>` acts as a delimiter that defines the end of the previous macro. When a macro is executing, it is also looking ahead and when it sees a `<=>` it will stop executing when it reaches the character preceeding the `<=>`. With two `<=>` in a row, the first `<=>` will prevent the previous macro from executing the last character in the macro because it thinks that character is being defined by the first `<=>` it sees in the pair. Well, in fact, that is exactly what it IS doing. So you would need to put a dummy character before the double `<=>`. `[OPTION]_[+]` the dummy character would actually type the second `<=>` in the editor and then execute the first `<=>` macro command, so I would use a difficult-to-type dummy key like `[ESC]_[SELECT]_[SHIFT]_[+]` (inverse backslash). This is just a theoretical discussion but shows how the logic of macro execution operates.

Next month, I'll finish up with some exciting examples which put this all together.

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Making It Go

(Programming with dBMAN, Part 2)

(C) 1993 David C. Troy

Last Month

For those of you who weren't here last month, you missed the first part in our series about *dBMAN* programming. To bring everybody up to speed, last month we began working on a small application that would help you manage a checkbook.

We defined two simple databases, one containing "people" and the other containing "transactions." Their structure is as follows:

people			checking		
ACC_NUM	C	4	ACC_NUM	C	4
NAME	C	35	DATE	D	8
ADDRESS	C	35	AMOUNT	N	82
CITY	C	35	TR_TYPE	C	10
STATE	C	2	TR_MEMO	M	10
ZIP	C	10	MINE	L	1
PHONE	C	13			

As you may recall, we were using `people` to store the information about the people we wrote checks to and `checking` to store the transactions in our checking account.

Indexing

With a very small (under 100 records) database, finding a particular record using the traditional bump and grind method of examining every entry is relatively quick, but as your files get larger, you'll want to have a quicker way of locating specific records.

In *dBMAN*, indexes are used to quickly locate a given record. An index file is made up of a list of sorted index "keys," each paired with pointers to record numbers in your database. The internals of the index file are, however, completely transparent to you, the end user, so you don't really have to care about how they work. All you need to know is that an index file helps you find records more quickly.

To index our `people` database on the field `NAME`, we would use the following command (after we were already `USE`-ing `people`):

```
INDEX ON NAME TO namedex
```

dBMAN will then create an index file called `NAMEDEX.NDX` and allow you to use the `FIND` command on the `NAME` field to locate the first record that matches the supplied criterion, as in this example:

```
FIND "LOOSE SCREW"
```

The record pointer would be repositioned to the record containing the "LOOSE SCREW AUTO REPAIRS" (from last month's column). Simple, eh?

Once you have created an index file using the `INDEX` command,you can access it in the following ways. If you have not USED the database, try:

```
USE people INDEX namedex
```

Or, if you have already USED the database without specifying an index, just type:

```
SET INDEX TO namedex
```

There are other things you can tell *dBMAN* to do with indexes, like sort in ascending or descending order or LIFO (last in, first out–meaning that items with the same index key will be grouped together). Most of the time though, you'll probably just want to use indexes to help you find a particular record, and for that purpose, the default `INDEX` options are just fine.

Before we go on to writing our checkbook application, we're going to have to set up indexes on our `people` and `checking` databases to work with the program. Sure, we could have the program check for the proper indexes and do this stuff automatically, but save that for when you know what you're doing. For now, we'll set things up for the program.

What to Index

For the people database, let's say we want to have five indexes. They are:

`PACCNUM.NDX`–people database account number index
`PADDRESS.NDX`–people database address index
`PNAME.NDX`–people database first/company name index
`PLNAME.NDX`–people database last name index
`PPHONE.NDX`–people database phone number index

To set these up, first type `USE people`. Then:

```
INDEX ON acc_num TO paccnum
INDEX ON address TO paddress
INDEX ON name TO pname
INDEX ON EXTRACT(" ",TRIM(name),2) TO plname
INDEX ON phone TO pphone
```

One of the above commands stands out a bit... Can you tell which one? What's up with the **EXTRACT** thing?

Well, there is no single field in our people database that tells us a person's last name; rather, we can deduce a person's last name by looking at their name. Take my name, for instance.

David Troy

Well, it's pretty obvious what my last name is, right? But how do we tell the computer to figure that out? In this case, we're using *dBMAN's* **EXTRACT** function. If you check your manual, you will find that extract has the ability to break a regularly delimited string up into enumerated components, for example:

If **string** is defined as "123/NOP/456/QRS/HURRAH!", then:

`EXTRACT("/",string,3)` equals "456"
`EXTRACT("/",string,5)` equals "HURRAH!"

For **EXTRACT**, "/" is the delimiter, string is the search string, and the number tells us which portion we're after. So, getting back to our index, if we tell *dBMAN* to index on the EXTRACTed second string on a string delimited by spaces, then for the most part we'll get the last name. In my case, we'd get Troy. Note that we're also using the **TRIM** function to snip off trailing blanks that might confuse **EXTRACT** (since we've told it that spaces are the delimiters).

Obviously, if you were to use someone's middle initial with their name, picking the second segment of their name would give you their initial. Like with me:

David C. Troy

You'd get "C." instead of Troy. Easy answer? Don't use middle initials until you're ready to deal with it. There are ways, such as keeping someone's last name in a separate field, or actually using other string functions to determine whether a middle initial is in use, and if it is, ignore it. But that's hard.

OK. So we've indexed our people database. Now let's move on to our **checking** database. We'll want these indexes:

CKACCNUM.NDX–checking database account number index
CKAMOUNT.NDX–checking database amount index
CKDATE.NDX–checking database date index

To create these, first **USE checking** and then type:

```
INDEX ON acc_num TO ckaccnum
INDEX ON amount TO ckamount
INDEX ON date TO ckdate
```

Now you should have two fully functioning fully indexed databases. On to the program.

```
**************************************************
*
* CHECK.CMD -- (C) 1993 DAVID C. TROY
* KEEPS TRACK OF YOUR CHECKING ACCOUNT
*
**************************************************

* SET ENVIRONMENT

ERASE CHECK.PRO
SET PROCEDURE TO CHECK
SET DELETED ON
SET DB3 ON
SET ESCAPE OFF
SET TALK OFF
SET SAFETY OFF
SET BELL OFF
SET STATUS OFF
SET ECHO OFF

CkIndex = "ckaccnum,ckamount,ckdate"
PIndex  = "paccnum,paddress,pname,plname,pphone"
SELECT A
USE checking INDEX &CkIndex ALIAS checking
SELECT B
USE people INDEX &PIndex ALIAS people

SET RELATION %checking TO %people FIND
checking->acc_num

* MAIN PROGRAM
DO MainMenu
CLOSE ALL
CLEAR ALL
RETURN


**************************************************
* MAIN MENU
**************************************************
PROCEDURE MainMenu

DO WHILE .T.
  CLEAR
  @ 2,0 SAY CENTER("Checking Account Manager (C) 1993
D.C. Troy",80)
  @ 6,0 TO 23,79 DOUBLE
  @ 9,20 SAY "1. Enter New Transaction"
  @10,20 SAY "2. Delete Existing Transaction"
  @11,20 SAY "3. Account Balance"
  @12,20 SAY "4. List Accounts"
  @13,20 SAY "5. List Transactions"
  @14,20 SAY "6. Display Total Paid to Single Account"
  @15,20 SAY "7. Print Statement"
  @18,20 SAY "8. EXIT and SAVE"
  Choice = " "
  @20,20 SAY "Enter Selection ->" GET Choice PICTURE
"!" VALID Choice $ "12345678"
  READ

  DO CASE
    CASE Choice = "1"
      DO EnterTran
    CASE Choice = "2"
      DO DeleteTran
    CASE Choice = "3"
      DO AccBalance
    CASE Choice = "4"
      DO ListAcc
    CASE Choice = "5"
```

Typing It In

To type this program in, you'll want to sit down with a nice and friendly ASCII text editor like *Tempus 2* or equivalent. Make sure you're really working in ASCII, too–you don't want to be using *Word Writer* or *1st Word Plus* and be accidentally saving a bunch of junk formatting characters. I tend to use the *GENTT* editor that came with *DevPac TT.*

For convenience, you'll want to set yourself up with a tab width of 3. A lot of folks prefer 8, but you'll find the lines of this program flying off the right hand side of your screen if you use 8.

Also, I'll be posting the source code for this program on my BBS and on GEnie for anyone who wants it. Look for the filename CHECK.CMD (which is what you should name the file when you type it in, incidentally).

Without any further ado, let's get on with it. Type it in. ‹grin.›

Structured Program

This program is "totally structured, dude." Admittedly, it goes a little overboard on that score–but it's merely to prove the point that programming with *dBMAN* is just like programming with any other respectable language. And it requires the same care and forethought that is required of programming in C or Pascal. Honestly, most of my *dBMAN* programs aren't quite this, well, anal retentive, but you might get scared if you saw some of my normal code.

The first "segment" of the program does very little. It just sets up the *dBMAN* environment (all the `SET` commands–see the manual for the details on what each one does), `USE`s our two databases (and sets up a `RELATION` between the two), goes to the main menu and quits when you're done. Pretty simple.

One tricky thing that we're doing is using strings to define our two lists of indexes for our databases (CkIndex and PIndex). Then you can see in the `USE` command that we're using `INDEX &CkIndex` (putting an ampersand (&) in front of a variable name allows us to access its contents as if they were typed on that program line, so functionally, writing `&CkIndex` is the same as writing its full contents in the program) rather than listing the index names out. By using the strings to define the indexes, we can reference that same list later, which will be handy. Remember that.

Also, we're USING `checking` in file area "A " (`SELECT A`) and `people` in file area "B" (`SELECT B`). This allows us to have both databases open simultaneously. Rather than having to remember which database is in "A" and which is in "B," we've assigned them both aliases (`ALIAS checking` and `ALIAS people`). As you will see throughout the program, we reference those databases with `SELECT checking` and `SELECT people` in the future.

The RELATION

You've heard people babbling for years about RELATIONAL databases, right? What does that mean? Most people have absolutely no idea, greatly resembling the way that, as both Dave Small and Andrzej Wrotniak pointed out last month, most people (including computer sci dweebs) don't have any idea what an **object** is, despite the consumer rage for object orientation. Well, you're about to be clued in on something that 9 out of 10 computer users have heard of and 1 out of 1000 actually know. What is a relation?

In our one fateful line, we explain much.

```
SET RELATION %checking TO %people FIND
checking->acc_num
```

Remember last month how we were talking about record pointers, and remember how this month we talked about indexes? Well, with our little relation, we insure that the record pointer in `people` always points at the record corresponding to the account number in the record pointed at in the `checking` database. Whoa. Run that by you one more time? Ok.

Suppose that we had this record in the checking database, and the `checking` record pointer pointed at it:

```
ACC_NUM    0002
```

etc...

And this record in the people database:

```
ACC_NUM    0002
NAME       ACME LIQUID NAILS
```

Then by the very virtue of the fact that the `checking` record pointer points to a record containing the account number "0002," the relation will insure that the `people` database `FINDS` and subsequently points to the `people` record with the corresponding account number. Thus, we can say that the two databases are dynamically linked, and that when:

`checking->acc_num` equals 0002
`people->name` equals "ACME LIQUID NAILS"

This is powerful. And relations don't have to be just between two databases. We could relate checking to people and people to another database and that database to another and so on.

Conditions for a Relation

In order to have a relation, the database that you're relating `TO` must have an index on the key you're relating. In our example, `paccnum` is our `people` account number database. So as long as that is the active index when we want to use our relation, we should always get the right results from our relation.

A relation must never lead back to its "parent" database. For instance, you can't relate `checking` to

```
      DO ListTrans WITH 0
    CASE Choice = "6"
      DO AccTotal
    CASE Choice = "7"
      DO Statement
    CASE Choice = "8"
      EXIT
  ENDCASE
ENDDO

RETURN


**************************************************
* ENTERTRAN -- Enter a Transaction
**************************************************
PROCEDURE EnterTran

TempAcc  = SPACE(4)
TempDate = DATE()
TempAmt  = 0
TempType = SPACE(10)
TempMine = .Y.

* WHAT KIND OF TRANSACTION?
CLEAR
@3,0 TO 23,79 DOUBLE

TranOpts="Check,Deposit,ATM Withdrawal,Electronic
Payment,Other"
ASSIGN VMENU(",",TranOpts,6,1,0,1,13)

DO CASE
 CASE VMENU() = 1
  TempAcc  = FindAcc("Pay To The Order Of...")
  CheckNum = "0000"
  @ 8,42 SAY " Check Number: " GET CheckNum
  READ
  @ 8,42 CLEAR TO 8,78
  TempType = "CHECK "+CheckNum
  PosNeg   = -1
 CASE VMENU() = 2
  TempType = "DEPOSIT"
  PosNeg   = 1
 CASE VMENU() = 3
  TempType = "ATM_WITHD"
  PosNeg   = -1
 CASE VMENU() = 4
  TempAc   = FindAcc("Electronic Payment Made To...")
  TempType = "ELEC_XFER"
  PosNeg   = -1
 CASE VMENU() = 5
  @ 8,42 SAY "  Type: " GET TempType PICTURE "@!"
  READ
  @ 8,42 CLEAR TO 8,78
  YN = .N.
  @ 8,42 SAY "Assign To Particular Account? " GET YN
PICTURE "Y"
  READ
  IF YN
    TempAcc = FindAcc("This Transaction Pays To/Paid
From...")
  ENDIF
  @ 8,42 CLEAR TO 8,78
  YN = 'W'
  @ 8,42 SAY "Withdrawal or Deposit? (W/D) " GET YN
PICTURE "!"
  READ
  @ 8,42 CLEAR TO 8,78
  PosNeg = IIF(YN='D',1,-1)
ENDCASE

IF VAL(TempAcc)<>0
  @ 6,40 SAY people->name
ENDIF
@ 9,42 SAY "  Date: " GET TempDate PICTURE "@D"
@10,42 SAY "Amount: " GET TempAmt  PICTURE
"$#######.##"
@11,42 SAY " Yours? " GET TempMine PICTURE "!"
READ
IF LASTKEY()<>27
  TempAmt = TempAmt * PosNeg
  SELECT checking
  APPEND BLANK
  REPLACE acc_num WITH TempAcc
  REPLACE date    WITH TempDate
  REPLACE amount  WITH TempAmt
  REPLACE tr_type WITH TempType
  REPLACE mine    WITH TempMine
  @14,42 SAY "  Note: " GET tr_memo
  READ
ENDIF
RETURN


**************************************************
* FINDACC-Locate/Create Particular Account in PEOPLE
**************************************************
PROCEDURE FindAcc
PARAMETER Message

SAVE SCREEN TO 0
SELECT people

DO WHILE .T.
  CLEAR
  searchkey=SPACE(35)
  @ 4,0 SAY CENTER(Message,80)
  @ 8,15 SAY "Search For: " GET searchkey PICTURE "@!"
  READ
  searchkey=TRIM(searchkey)
  Max_Index = TOKENS(",",PIndex)+1
  Cur_Index = 1
  NF = .T.
  DO WHILE Cur_Index<=Max_Index AND NF
    Indx = EXTRACT(",",PIndex,Cur_Index)
    SET INDEX TO &Indx
    FIND searchkey
    NF = NOT FOUND()
    INC Cur_Index
  ENDDO
   IF NF
    DO AddAcc
    IF LASTKEY()<>27
      EXIT
    ENDIF
  ELSE

hdg1="'ACCT','NAME','ADDRESS','ZIP','STATE','PHONE'"
   hdg2=""

pic="'XXXX','XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX','
XXXXXXXXXXXXXXXXXXX','XXXXX','XX','XXXXXXXXXXXXX'"
   fields="acc_num,name,address,zip,state,phone"
   SHOP ALL FROM RECNO() hdg1,hdg2,fields,pic
   IF LASTKEY()<>27
      EXIT
    ENDIF
  ENDIF
ENDDO
RESTORE SCREEN FROM 0
RETURN acc_num

****************************************************
* ADDACC -- Add a New Account to PEOPLE
****************************************************
PROCEDURE AddAcc

CLEAR
@ 6,10 TO 20,69 DOUBLE
TempAcc   = NextAcc()
TempName  = SPACE(35)
TempAddr  = SPACE(35)
TempCity  = SPACE(35)
TempState = SPACE(2)
TempZip   = SPACE(10)
TempPhone = SPACE(13)
DO WHILE .T.
  @ 8,13 SAY "Account Number:  " SAY TempAcc
  @10,13 SAY "          Name: " GET TempName PICTURE
"@!"
  @11,13 SAY "       Address: " GET TempAddr PICTURE
"@!"
  @12,13 SAY "          City: " GET TempCity PICTURE
"@!"
  @13,13 SAY "         State: " GET TempState PICTURE
"@!"
  @14,13 SAY "           Zip: " GET TempZip PICTURE
"@!"
  @15,13 SAY "         Phone: " GET TempPhone PICTURE
"@!"
  READ
  YN=.N.
  @ 17,13 SAY "Is This Correct? " GET YN PICTURE "Y"
  READ
  IF YN OR LASTKEY()=27
    IF LASTKEY()<>27
      SELECT PEOPLE
      APPEND BLANK
      REPLACE acc_num WITH TempAcc
      REPLACE name    WITH TempName
      REPLACE address WITH TempAddr
      REPLACE city    WITH TempCity
      REPLACE state   WITH TempState
      REPLACE zip     WITH TempZip
      REPLACE phone   WITH TempPhone
    ENDIF
    EXIT
  ENDIF
ENDDO
RETURN

****************************************************
* NEXTACC -- Creates a New Account Number
****************************************************
PROCEDURE NextAcc

SELECT people
SET INDEX TO paccnum
GOTO BOTTOM
RETURN LPAD("0",STR(VAL(acc_num)+1),4)

***************************************************
* ACCBALANCE -- Displays Current Account Balance
*****************************************************
*****
PROCEDURE AccBalance
SELECT checking
SUM amount ALL TO balance
CLEAR
@ 10,20 SAY "Current Balance: " SAY balance
@ 16,20 SAY "Hit Any Key To Continue..."
WAIT
RETURN


***************************************************
* DELETETRAN -- Allows you to Delete a Transaction
***************************************************
PROCEDURE DeleteTran
SELECT checking
SET INDEX TO ckdate

hdg1="'ACCT','NAME','DATE','AMOUNT','TYPE','YOURS'"
hdg2=""
pic="'XXXX','XXXXXXXXXXXXXXX','@D       ','@XC
$####,####.##','XXXXXXXXXX','X'"
fields="acc_num,people->name,date,-amount,tr_type,
mine"
SHOP ALL FROM RECNO() hdg1,hdg2,fields,pic

IF LASTKEY()=13
  CLEAR
  YN=.N.
  @ 8,3 SAY "Are you sure you want to delete
transaction "+LTRIM(STR(RECNO()))+"?" GET YN PICTURE
"Y"
  READ
  IF YN
    DELETE
    PACK
  ENDIF
ENDIF
RETURN


***************************************************
* ACCTOTAL--Displays totals for a particular account
***************************************************
PROCEDURE AccTotal
SearchAcc = FindAcc("The Account I Want to Total
Is...")
SELECT people
SET INDEX TO paccnum
SELECT checking
SET INDEX TO ckaccnum

SUM amount ALL FOR acc_num=SearchAcc AND amount>0 TO
posamt
SUM amount ALL FOR acc_num=SearchAcc AND amount<0 TO
negamt
FIND SearchAcc

CLEAR
@ 4,3 SAY SearchAcc+'   '+people->name
@ 9,5 SAY "Payments FROM This Account: " SAY posamt
PICTURE "$####,####.##"
@10,5 SAY "  Payments TO This Account: " SAY negamt
```

`people` and then relate `people` to `checking`. If you do, you'll blow *dBMAN's* mind and an error will occur. Don't do this.

Moving Right Along

That relation is probably the roughest thing in the whole program. The rest of it reads pretty much like BASIC. But we'll go through it and pick out the non-obvious stuff.

The "Main Menu" is super-obvious. It just paints a menu using `@ Y, X SAY` commands (position and print–see the manual for more details on these) and then uses a `@ Y, X GET/READ` combo to get your input. Observe the syntax of the `SAY/GET` commands here–they're used throughout. We use a `CASE` statement to branch off and do our different routines and then, if somebody presses '8' for exit, an `EXIT` to leave our `DO WHILE` loop and return. Easy.

Entering Transactions (1)

After making some blank temporary variables to store transaction data (which are used to store the data before writing it to disk, in the event that we don't actually want to save it), we clear the screen (`CLEAR`), draw a border (`@Y,X TO Y,X DOUBLE`) and then create a special *dBMAN* vertical menu.

This menu will allow you to use the arrow keys to select one of several options: "Check, Deposit, ATM, Withdrawal, Electronic Payment, Other." See the manual for more syntax on `VMENU`.

`VMENU` returns a value, letting you know which option the user chose. Another `CASE` statement guides us through the various choices. If the user chose "Check," then `VMENU()=1`, and we're asked to `FindAcc` (find the account) of the person we want to write the check to. Then we're asked to type in the check number and we set `PosNeg`, a little pet variable, to -1, denoting that a checks have a NEGATIVE value. Later, we will multiply the amount of our check by `PosNeg`.

If `VMENU()=2`, we chose Deposit. `PosNeg=1`, `TempType` (temporary equivalent of `tr_type`) equals `DEPOSIT`). Easy, huh?

I'll let you go through the rest of the options yourself. After the `CASE` statement ends, we get to the important stuff that we need to know about every transaction–the date, the amount, and whether or not it's yours. We read it, and provided you didn't press the [Escape] key, (`LASTKEY()<>27`), we append a blank record and fill it up with stuff. You can even enter stuff into the memo field. (Use space to edit, return to save). Cool.

That's it. You're now a pro transaction-enterer.

Deleting Transactions (2)

`DeleteTran` is our subroutine that handles deleting transactions. We use a special command here called `SHOP` to help us pick which transaction we want to delete. `SHOP` displays a full screen of data and allows you to move the cursor to the record you desire–kind of like a police lineup. There are four parameters that `SHOP` requires:

`Heading 1`–Allows you to put a heading line at the top
`Heading 2`–Allows for a second heading line
`Fields`–Specify which fields you wish to "shop"
`Picture`–A string of format characters specifying how you want the field data to be displayed

In `DeleteTran`, `Heading 1` is specified by `hdg1`. There is no `Heading 2`, (just a null string ""). `Picture` (pic) uses a couple of tricks, namely the `@D` string to format the date and the `@XC` string to put "CR" after positive numbers and "DB" after negative numbers. The fields are pretty standard too, except note that we are relying on our relation here. We're "shopping" primarily on `checking`, but yet we're also looking at `people->name` for each record, too, which we can do thanks to our relation.

After the `SHOP`, provided that you pressed [Return] (`LASTKEY()=13`), we clear the screen, ask if you're sure you want to delete the transaction and then do so if you're sure. Then we return.

Account Balance (3)

As we discussed last time, one virtue of the structure of the `checking` database is that the account balance is simply the sum of all of the transactions (remember, some are negative, some are positive). So, our Account Balance routine does little else but compute this sum.

We just use `SUM amount ALL TO balance` and then display balance. No big deal.

List Accounts (4)

This is pretty straightforward, too. We just run a little routine called `SetDevice` (which we'll describe in a minute) and then print our account list out to that device, starting at the top and then `SKIP`ping, one record at a time, to the end of the file. If the output device happens to be the screen, we pause every screenful (24 lines). Easy enough.

List Transactions (5)

We do the same thing here as we did for the accounts list. We `SetDevice` and then skip through our list, pausing every 24 lines if we're listing to the screen.

Account Total (6)

This is useful if you need to know the total amount you've paid to (or have been paid by) a particular account in `people`. We use `FindAcc` to pick the person we're looking for and then `SUM` to add up all the payments `FROM` (positive, numbers greater than

```
PICTURE "$####,####.##"
@11,5 SAY "                        TOTAL: " SAY
posamt+negamt PICTURE "$####,####.##"
@20,5 SAY "Hit Any Key To Continue..."
WAIT
RETURN


***************************************************
* LISTACC--List Accounts To Screen/Printer/File
***************************************************
PROCEDURE ListAcc
SELECT people
SET INDEX TO paccnum
GOTO TOP

Out = SetDevice()
CLEAR
Line=0

DO WHILE NOT EOF()
  ? " Account Number: "+acc_num
  ? "           Name: "+name
  ? "        Address: "+address
  ? "City, State,Zip: "+TRIM(city)+' '+state+'  '+zip
  ? "          Phone: "+phone
  ?
  SKIP
  IF Out=1
    Line = Line+6
    IF Line=24
      WAIT
      Line=0
    ENDIF
  ENDIF
ENDDO
IF Out=1
  WAIT
ELSE
  SET PRINT TO
  SET PRINT OFF
ENDIF
RETURN


***************************************************
* SETDEVICE--Allows user to pick screen/printer/file
***************************************************
PROCEDURE SetDevice
ListOpts="Screen,Printer,File"
CLEAR
ASSIGN VMENU(",",ListOpts,6,1,0,1,13)

DO CASE
 CASE VMENU()=1
   SET PRINT OFF
 CASE VMENU()=2
   SET PRINT ON
 CASE VMENU()=3
   Fname = "OUT.TXT"
   @ 8,40 SAY "Filename: " GET Fname PICTURE
"XXXXXXXXXXXX"
   READ
   ERASE Fname
   Fname = "SET PRINT TO "+Fname
   &Fname
   SET PRINT ON
ENDCASE
RETURN VMENU()

***************************************************
* LISTTRANS--List Transactions to screen/prntr/file
***************************************************
PROCEDURE ListTrans
PARAMETER startbal

SELECT people
SET INDEX TO paccnum
SELECT checking
SET INDEX TO ckdate
GOTO TOP
Out = SetDevice()
CLEAR
Line=0

balance = startbal
DO WHILE NOT EOF()
  balance = balance + amount
  ?? acc_num+' '+LEFT(people->name,25)
  ?? ' ',date,' '
  ?? -amount PICTURE "@XC $####,####.##"
  ?? '  '+tr_type+'  '
  ?? balance PICTURE "$####,####.##"
  ?
  SKIP
  IF Out=1
    INC Line
    IF Line=24
      WAIT
      Line=0
    ENDIF
  ENDIF
ENDDO
IF Out=1
   WAIT
ELSE
  SET PRINT TO
  SET PRINT OFF
ENDIF
RETURN


***************************************************
* STATEMENT -- Prints a Statement by picking a dated
*               subset of the transactions
***************************************************
PROCEDURE Statement

CLEAR
begin = DATE()-30
end   = DATE()
@ 10,10 SAY "Statement Begins: " GET begin PICTURE "@D
     "
@ 12,10 SAY "  Statement Ends: " GET end PICTURE "@D
   "
READ
SELECT checking
SUM amount ALL FOR date<begin TO startbal
SET FILTER TO date>=begin AND date<=end
DO ListTrans WITH startbal
SET FILTER TO
RETURN
```

0) and all the payments **TO** (negative, numbers less than 0) that account. Then we display them, along with the net balance for that account, which is just the sum of the two.

Print Statement

This allows us to narrow the dates of our "transaction listing" to within a user-specifed range. You might want to have a list of all the transactions for the period corresponding to your bank statement dates, so you can do a full reconciliation. (I find I often have irreconcilable differences with my bank...)

We use a very simple tactic to limit this range. We just pick two dates and use the **SET FILTER TO** command to limit the records in our database. Then we execute the same exact **ListTrans** routine we would otherwise use. Because of the new filter, it only knows about the transactions in the specified window, so those are the only ones it lists. We do, however, compute a starting balance for that period and send that along. That's why we're sending a 0 in the main menu–when you list all the transactions, the starting balance is always 0.

Auxiliary Subroutines

In writing this program, I discovered that there were a few little functions that would be so common that they should be made into routines that could be used anywhere. So there are a few.

FindAcc is one of the more devilish of these little routines. Remember how we set up a bunch of indexes for the **people** database? They facilitate locating a particular record; however, how do we convert the power of these indexes into something useful to the end user?

FindAcc allows the user to type in a search key, then the computer messes with the clutch and wrenches with the gears until things catch by going through all the indexes until the search key is found. If the search key isn't found, then it assumes that you want to enter in a new record and runs **AddAcc.**

Remember how, initially, we set up all our indexes in a friendly string, **PIndex?** Well, **FindAcc** is where we use that string. **Max_Index** is a variable assigned to equal the number of indexes present in our string (which is computed by counting how many commas are present in the string, then adding one, since the commas are only between the index names). **Cur_Index** is a number telling us which is the current index.

Then we just loop through, using **EXTRACT** to pull the **Cur_Index** index from the string, **SET INDEX TO &Indx** to set the index to that particular index, until **NF**, which is assigned the value **NOT FOUND** is **FALSE** (meaning that it was found). That was kind a metaphysical, sure, but stare at it for a while, look up the commands in the manual to get some background, and then you'll realize what we're doing is really kinda wicked.

So if it goes through all the indexes and still can't find the searchkey, then it runs **AddAcc**, another little routine that lets us add an account.

If it *does* find it, you use **SHOP** to pick the record you're looking for (which will most likely be the record the cursor is on from the start, because that will be the record that matches your search key).

AddAcc

This routine is similar to the **EnterTran** routine. They both create temporary variables, collect data into those temporary variables, and provided you don't break out with an escape, store the data.

One function that's special here is **NextAcc**, for one because it is a function. It returns a four letter string containing the next account number in **people**, padded on the left by zeros. **NextAcc** itself is very simple and uses standard *dBMAN* functions to obtain its value. Just read it the way it's written.

SetDevice

We already said that this function allows the users to pick where they would like their "?" command output directed. You can choose between the screen (**SET PRINT OFF**), the printer (**SET PRINT ON**), or a disk file (**SET PRINT TO filename, SET PRINT ON**). The function uses a vertical menu and returns the value (1,2,3) of the device chosen.

There Ain't No More

That's pretty much all there is to this program. I omitted discussion of a lot of the syntax and *dBMAN* commands, but I contend that if you type in the program and play around for about two hours, you'll know 75% of what there is to know.

While we've written a perfectly functional little program here, it isn't good for much the way it is. Next month we'll take steps towards refining it by adding other functions like an "edit transaction" command and maybe a "print check" routine. For example, with this program, you can enter a memo field but you can never access it again (unless you cheat and access it directly using *dBMAN*).

A Final Word on Indexing

If you should be so inclined to mess with the **checking** and **people** databases al fresco, without the aid of our little program, make sure that you always **USE** those databases with all of their **INDEX**es at the same time. If you **USE** a database and modify its contents without a particular index active, that index will become outdated and you'll have to use the **REINDEX** command (see the manual) to fix it. So, feel free to mess with the data you create all you want, but make sure not to screw up your indexes.

Woods Music

by

Gary Woods

MIDISCAN

Convert Printed Music to MIDI

For approximately the last two years I've been hearing about something called OCR or Optical Character Recognition. This is a process in which text is scanned then transformed into a text file that can be manipulated in a word processor. Up until recently, I didn't think it would ever happen for music, but a company called MUSITEK out of Ojai has come up with a piece of software called *MIDISCAN* that converts printed music into MIDI Files.

Unfortunately for us Atarians, it is only available on the PC family of computers at this time. But, once you've created a MIDI file with the program, you can play that PC disk on your Atari because PC and Atari MIDI data are the same. So, take that sheet music to work, scan it, and then bring the MIDI file home and play your little heart out. For this article, I interviewed Chris Newell, who owns the company, and received a very interesting demonstration of the product.

Gary–*What's the first step in getting a piece of music transformed into a MIDI file?*
Chris–First boot up your scanning software, which comes with all scanners, and set the parameters. For *MIDISCAN* you set it to black and white, 300 dots per inch, and start scanning your pages. The scanned image creates a TIFF (Tagged Image File Format) file for every page. So if you have a six page score, you create six TIFF files and then store them in a directory.

Gary–*This is all outside of MIDISCAN?*
Chris–Yes, this scanning takes about 10 seconds per page and occurs outside of *MIDISCAN*.

Gary–*Where does MIDISCAN come in?*
Chris–Once you have TIFF files, *MIDISCAN* converts them into one seamless file.

Gary–*What are the hardware requirements?*
Chris–You need the same hardware that Windows requires. So, the minimum recommended system would be a 386 with 4 meg of RAM, and, of course, *Windows 3.0* or above. Other than that, you would need a scanner with scanning software.

Gary–Any particular kind of scanner?
Chris–Any scanner that outputs a minimum of 300 dpi. If you use a hand scanner, you must have scanning software that allows you to stitch. (Make multiple scanned passes into one single TIFF page.)

Gary–*What's the cost of a scanner?*
Chris–Scanners cost anywhere from $50 to $2,000. If you're going with a full page scanner, I would recommend an HP Scanjet 2P. That particular model has a street price of about $600 to $700.

Gary–*How big are the TIFF files?*
Chris–They can be very large, well over a megabyte each per page. So, if you're going to be doing lots of large scores, you would need a good sized hard drive.

You must remember, however, that we're only talking about the scanned image. Once you've processed the TIFF file you can throw it away, because what you're creating is a MIDI file, which ends up being much smaller. A one meg TIFF file becomes a MIDI file of less than 30k. For a 10-page score we're probably looking at about 250k.

Gary–*Now that you have your TIFF file, what happens?*
Chris–After booting the *MIDISCAN* software, you would normally go into Recognition Setup and define what kind of music you're scanning. That is to say, whether it is a single line part, or multiple line ensemble composition. Each line of an ensemble part would have its own MIDI channel.

In the Beta version, we have what is called Automated System Localization. What this does is automatically recognize how many lines are in a system so that the user does not have to enter this data.

Gary–*What is the maximum number of staves per system?*
Chris–16 staves per system. We may go beyond 16 staves in the second release, but right now we're staying within the 16 staves.

Gary–*What are the symbols that are recognized?*
Chris–Note Durations, Note Pitches, Key Signatures, Time Signatures, Clefs, Accidentals, Bar Lines, Change of Key Signature, Change of Clef, and Ties.

Gary–*What are the symbols that aren't recognized?*
Chris–We are not recognizing Slurs, Dynamics, and Articulation Marks.

Gary–*It recognizes Ties, but not Slurs?*
Chris–Yes there are several rules that are built into the algorithm that discriminate between symbols.

Gary–*Are there any plans to implement slurs, and other performance parameters?*
Chris–Possibly, but right now we're assigning a velocity of 64 to all notes. What we want to provide the users with is not a finished, polished performance. We want to give them a rough draft, and allow them to input their own performance parameters. That's why we decided not to go after recognition of performance objects like staccato and tenuto markings right now. Maybe down the line.

Gary–*So it's a possibility?*
Chris–Absolutely, like a staccato mark you could decrease the value by 50%, or an accent could kick up the velocity. All the objects out there are capturable.

Gary–*What about volume information sent on MIDI Controller 7?*
Chris–Yes, we could send maybe a MIDI level 80 or 90 for a Forte Marking, a double F could be 110, and a triple F could be 125. Some easily defined range like that. Then maybe crescendos and decrescendos could have a range of from 30 to 90.

These are features that are all down the line; what we really wanted to do first was focus on capturing note data.

Gary–*What's the accuracy of a scan?*
Chris–We're seeing about 95% recognition.

Gary–*What about scanning of skewed and distorted images?*
Chris–We correct the skew distortion by plus or minus 8%, so that's a range of 16% skew distortion corrected.

Gary–*How long does it take to scan a page of music?*
Chris–About 10 seconds.

Gary–*What's the process after getting a TIFF image?*
Chris–The first thing you can do in *MIDISCAN* is edit the TIFF image. The kind of thing you might want to edit are guitar chords close to the staves. You would want to eliminate these because *MIDISCAN* may end up making notes out of the guitar chords.

In the TIFF editor there is a very simple editing tool, which uses the Mouse and the Delete key to eliminate the unwanted information. Then, once it's been edited, you have to resave the TIFF file.

The next stage is Recognition. At this time, you tell it what files to process and in what order they are to occur. They are processed in Batch Mode so that you don't have to load files individually. After the files and order are selected, you tell it to process the data.

Gary–*What are the stages in processing?*
Chris–First it corrects the skew calculations, then it detects the staves and orders and counts them. After that, it starts the recognition of the musical symbols. Following Recognition, *MIDISCAN* creates a seamless file, which we call MNOD (Music Notation Object Description.) MNOD is a proprietary file format, which is also editable.

Gary–*What about symbols like Repeat Signs, Del Segnos, and Codas?*
Chris–No, implementation for things like repeats is accomplished in the sequencer portion.

Gary–*Are there plans to implement the scanning of handwritten scores?*
Chris–No, from a marketing standpoint, it's not worth our time. There's plenty of work to do on printed scores. Building in special algorithms to handle handwritten scores, if it's even feasible, which I have my doubts, would not be something I would do, because that's not the market I'm after. I'm not targeting composers. I'm after people who need a tool to improve their enjoyment of music on a home entertainment or educational level.

Gary–*How long does it take to create an MNOD file?*
Chris–About 5 minutes per page.

Gary–*What happens after the MNOD file is created?*
Chris–Now you can bring up both the original scanned TIFF file and the MNOD file you just created on the screen at the same time and compare them. Then you have a complete tool box, which allows you to change pitches, durations, add dots, change to tuplets, and basically do anything that you want to the music.

We have an algorithm called Measure Optimization that during MNOD file to MIDI file conversion is going to insist that the sum of durations of each voice line within each measure conform to the time signature. If that means dropping a note, it'll drop the note, if it means extending the duration of the tie, it will do so. It's going to do the best it can to adhere to the rules of music. Besides, MIDI insists on Measure Optimization.

Also, we can do some things that you can't necessarily convert to MIDI. For example, changing the direction of the stems, and grouping beamed notes.

Gary–*What's the next process?*

Chris–We convert the MNOD file to a MIDI file. Before you convert it to a MIDI file, you select which patch number you want, assign a tempo and there you have it. After that, load it into your sequencer and start playing.

Gary–*What sequencers support MIDISCAN?*
Chris–Any sequencer that allows you to load type 1 MIDI files can be used.

Gary–*What about printing?*
Chris–That will occur in either release 2.0 or 3.0. For people who don't really want to buy more than one product, in release 3.0 we'll have a sequencer and a printing feature. When we have printing we will have transposition.

Gary–*Do you have an approximate time frame on the two releases?*
Chris–I would say 2.0 by Jan. '94, and 3.0 by Jan. '95.

Gary–*What about other platforms?*
Chris–Yes we're planning a MacIntosh version by Jan. '94.

Gary–*What's the cost of the software?*
Chris–$379.

Gary–What about the release of 1.0?
Chris–June 15, and it will be available directly from MUSITEK, through Thinkware, and local dealers. Currently, we have a network of about 15 international distributors.

At this point in the demonstration, Chris booted up a sequencer called Musicator, loaded the file that we'd scanned, edited, and transformed, and played it right on the computer. To my ears, the performance sounded a little stiff; but other than that it was great. A little judicious editing on a sequencer would take away that stiffness without too much trouble, so all-in-all, a rather remarkable display. For anybody wanting to sing along with a piece of music, or just generally have fun, this could be a great product.

If you are interested in MIDISCAN please contact: MUSITEK, 410 Bryant Cir. Suite K, Ojai, CA 93023. Phone 1-800-676-8055; FAX 646-8099.

And if you would like to contact me I'm at: 6428 Valmont St., Tujunga, CA 91042. PHone: (818) 353-7418; FAX 352-6559.

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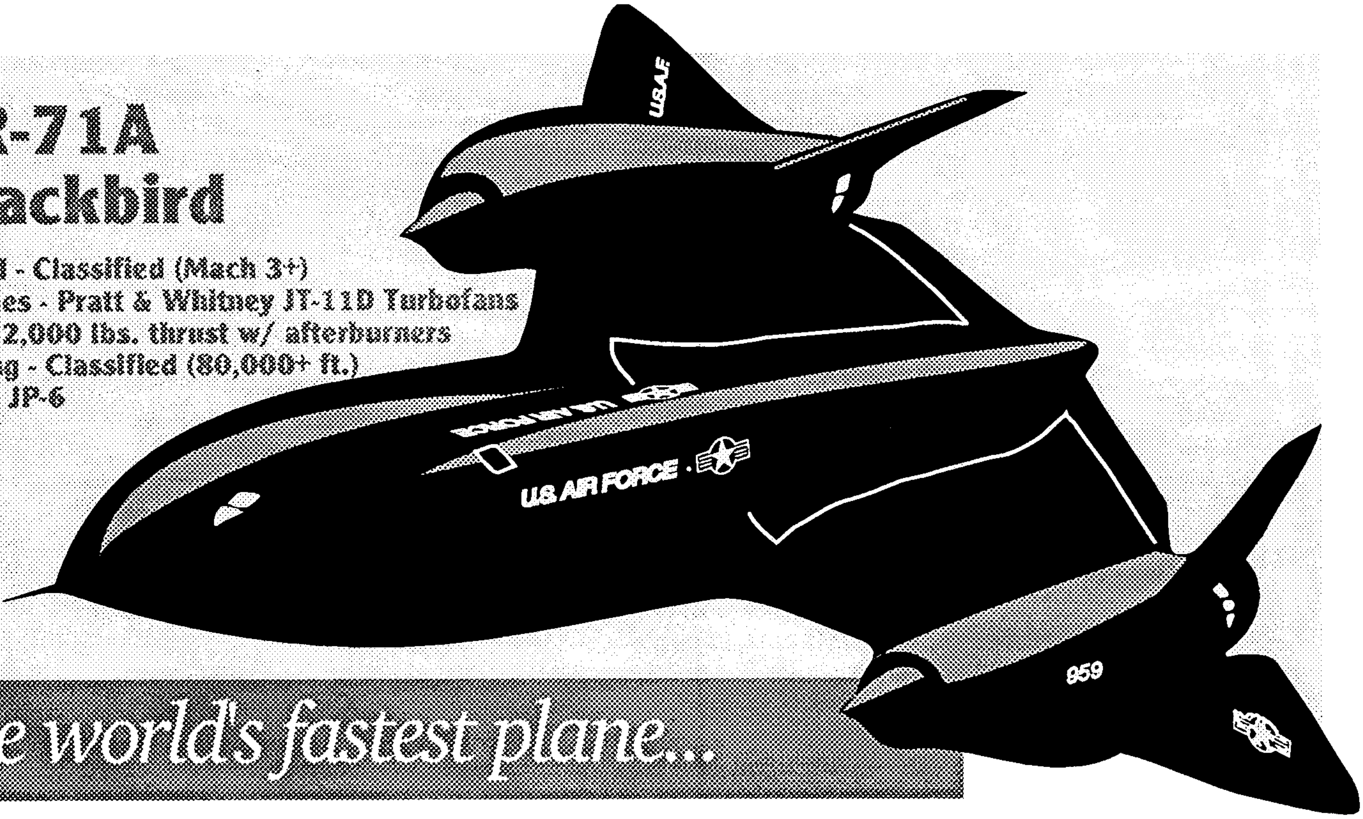

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GEnie® NOTES

by Lou Rocha

Holidays are here! I hope you are enjoying the summer and whatever vacation time you may have. July is usually a time for lazing around or catching up on those job jar duties. I know you'll all be doing a little of each. Meanwhile, the summer User Group shows should be in full swing and preparations are well underway for Glendale in September. Support your local groups and try to get to one of the great 'Fests in your area!

New GEnie Rates

On June 1 GEnie users were greeted with a very interesting announcement. GEnie has announced a new pricing structure, for the U.S, and Canada, that reduces hourly connect rates by 50%. Effective July 1, GEnie's standard hourly connect rate drops to $3.00 per hour ($4.00 Canadian). The monthly fee has been restructured, and moves from $4.95 to $8.95 (from $5.95 to $10.95 in Canada), which will include up to four hours of standard connect time access to most GEnie services, such as software downloads, bulletin boards, email, an Internet gateway, multi-player games and chat lines. This change also eliminates the GEnie*Basic package.

For several days after the announcement there was flurry of responses to this news but the general consensus has been one of approval. In essence, those most negatively affected are the users who spend a lot of time in Basic areas since they will no longer be free. For users of the pay RT's, charges will drop. Some people have estimated a 50% reduction in their monthly bills. Another anticipated benefit is the increased system speed as fewer users are expected to stay online for prolonged periods of time. It certainly appears as though this summer is going to be an excellent time to join the GEnie gang!

RTC Highlights

by Brian Harvey

I thought after last month that the Real Time Conferences (RTC) would be quiet. No way! FALCON sightings are making everyone giddy and talkative! Being that as it may, it is not an easy task to keep the size of this column down but I'll try. This month I will highlight two Dateline Atari conferences, a third with Trace Technology and a fourth with Missionware.

The Dateline Atari! RTC's on May 7th and June 4th are discussed together. These two RTC's dealt with many topics but the arrival of the FALCON and the new Atari programs were the main focus. The first good news is that *SpeedoGDOS* and *MultiTOS* are ready to be shipped to dealers. These two great products, which have been shipping with Falcon030s, are now available to the rest of us. In fact, as I am reading the Atari RT BBS while typing this I am perusing (true multitasking) reports of people receiving *SpeedoGDOS* already! *SpeedoGDOS* comes along with 14 BitStream fonts and, from personal experience, I would say the output is a real improvement over GDOS. Bob Brodie indicated that in addition to Atari selling *SpeedoGDOS*, both Oregon Research and Compo Software have licensed *SpeedoGDOS* from Atari. Oregon Research will ship *SpeedoGDOS* for their *True Paint* customers. Compo has licensed additional fonts from BitStream for their users.

Atari Works is still awaiting production of the manual but the "WORKS" should be in the stores long before you read this column. In my opinion, this should be considered a best buy considering it includes *SpeedoGDOS* and 14 BitStream fonts.

At both RTC's there were questions regarding the dealer agreement. Bob commented that "we have to start helping our dealers that we're bringing on board by helping them make the most of the opportunities that are in their back yard as well." This is the rationale for restricting mail orders. Bob mentioned that violators "run the risk of having (his) dealership revoked." He stated that Atari is very pleased with their decision to have this new agreement and it has brought them leverage to bring on new dealers!

Bob stated that they have over 140 dealers. This is much better than a year ago. Bob commented that Pacific Software Supply is now a distributor for the Atari Falcon030 and indicated "we will be working very closely with them to ensure that the dealers that they sign up meet all of the criteria that we have established for Atari dealers." This means that Pacific is now also carrying a wide range of accessories for the Atari Falcon030 as well.

One piece of sad news was the confirmation by Bob of the cancellation of the Dusseldorf Show. Why? The management felt that a larger multi-platform show, in Berlin, would be more beneficial to Atari.

Bob also noted that Atari's corporate counsel is investigating the best way to proceed with the case against piracy as reported by the IAAD. The investigation will include determining the real names of the operators of those BBS's dealing in pirated Atari and third-party products.

The FALCON can't be discussed without talking about its multimedia potential. Bob commented that Lexicor is working on a comprehensive array of products that should satisfy the needs of users. Also, COMPO is creating a video titler package and another product called, In Shape; while Digital Arts has products that are presently available at Pacific Software.

For those interested in a high-end machine, the news of the TT going back into production is great news. Also, Bob did report that Atari is working on the FALCON 040 but would not give any more details at this time.

Bob remarked that the FALCONS are now shipping with 80 megabyte hard disk drives instead of 65 Mb. Those machines also include *MultiTOS, SpeedoGDOS, Landmines, Breakout, CalAppt, ProCalc*, and *Talking Clock*. By the time you read this, there will be a number of units with 1Mb RAM and 4Mb RAM with no hard disk. These units will not include *SpeedoGDOS, Atari Works* or *FalconD2D*. However, an upgrade hard drive kit can be purchased with these products installed on the hard drive.

At CES in Chicago, the JAGUAR was announced! Bob uploaded the press release for the JAGUAR. In a nutshell, the JAGUAR will be a new multi-media entertainment system that will be initially released in the New York market in the fall. The national release will be within a year. This 64-bit system will be made in America and carry an approximate price of $200. Why NY? Bob stated, "It is a densely populated area, with terrific media exposure that makes it easy to both sell and promote a product greatly, rather than doing a big rollout all over the US."

Due to the great interest in Dateline Atari!, Bob Brodie plans to continue this RTC during the summer months. Why not join us on the first Friday of July, August and September?

John Trautschold of Missionware Software was the guest on May 5th and discussed his company's fine products. Missionware was generous enough to give away a free copy of *FLASH II* as a skill testing question prize during the RTC. Chris Oates was the lucky winner.

John commented that they are shipping version 2.1 of *Flash II*. If you are a registered owner, you should have your copy, since the upgrades are free. *FLASH 2.2*, in beta testing, will be fully MTOS and TOS 4.04 compatible. Atari changed the serial port from an MFP chip to the Zilog SCC ship. Therefore, version 2.1 of *FLASH* will not work on the Falcon.

The future of *Flash II* depends on the Atari marketplace. However, Missionware are looking at adding more terminal emulations, multiple capture buffers and multiple modems configurations. They plan on making enhancements to the editor, such as adding more word processing features. The list is far from finite! In fact, they may decide to do a "pro" version. Only user response will tell.

John declared that beta testing needs to be started on a *lottODDS* upgrade. Speaking of beta testing, *CyberPaint* Version 2.5 will be going to beta test this week. Version 2.5 runs on all Atari computers as we speak. It was rewritten on a Falcon and has been testing on a TT. According to John, "It really screams on the TT, too, at 33 MHz!" Again, 2.5 will only support 320*200 and 16 colors, but you'll be able to start CYP in any color TT resolution.

Keith Gerdes of Trace Technologies guested at a May 12 RTC. *Squish II* compresses your executable programs, but they remain executable. Keith stated that *Squish II* is on schedule for a release in June 1993. Upgrades will be available to current users of *Squish* v1. This program was completely rewritten and compression speed and file reduction are greatly enhanced. The uncompress routine has been redesigned to minimize any problems that may be encountered down the line. A new feature was added to *Squish I*: Compression Factor. This value lets the user choose the thoroughness of compression, which affect file size.

TraceTech's first new product, *Data Rescue*, offers a specialized solution for recovering deleted data. Users who own both *Data Rescue* and "competitive products" have stated they prefer *Data Rescue's* solution.

Data Diet is a realtime data compression like *Stacker. Data Diet* works at the file/GEMDOS level, whereas *Stacker* works at the disk level. *Data Diet* works at the file level and you can use ANY of your favorite tools off the shelf. There are plans for another major *Data Diet* version upgrade. The enhanced compression routine in *Squish II* (which was based on DD's) can be added to *Data Diet*, improving file size reduction without degrading uncompression speed. The *Data Diet* v2.5 project has since been slightly modified and, hopefully, will be an add-on module for all *Data Diet* owners, not just v2. What will this add-on do? Track all dietized files in realtime so that the 'Find Next File' size mode will no longer be needed. Every effort is being made to minimize performance hits and storage space requirements associated with this add-on.

Well, that's it for another month! As you can tell from reading the above, GEnie is the place to be for up-to-date information on Atari.

Ed. Note: Joe Waters and the *CN* staff will hold a joint conference with the *ST Informer* crew on July 14th at 10 p.m. On July 21st you can log on to meet Charles Smeton of *STraight FAX*.

GEnie Tip

by Lou Rocha

Part Two of our tutorial on downloading files examines the library commands and the actual download sequence. As you may recall, Part One dealt with the XMODEM, YMODEM and ZMODEM transfer protocols. Now, on to the downloading!

When you come into the Atari ST RoundTable, you can go directly to the Software Libraries by typing:

```
M 475;3
```

Now let me explain the Library menu to you briefly:

```
GEnie Atari Software Library
Library: ALL Libraries
1. Description of this Library
```

Tells you what type of files are in this library.

```
2. Directory of files
```

Gives you a complete listing of the files in this library.

```
3. Search File Directory
```

Allows a detailed search of certain files in this library.

```
4. Browse through files
```

Allows you to download files in the order they were uploaded.

```
5. Upload a new file
```

Contribute a file to the library.

```
6. Download a file
```

This is what our help file will be dealing with.

```
7. Delete a file you own
```

Delete a file you have uploaded.

```
8. Set Software Library
```

Use to narrow your library to just one area, e.g. Games.

```
9. Save Current Software Library
```

Saves your choice in #8 until you change it again.

```
10. Instructions for Software Exchange
```

Overview of GEnie file transfers.

```
11. Directory of New Files
```

Shows you all of the new files since last time you used this command (NOT the last time you were in the Library)

```
12. Join/Ignore Library Category
```

Allows you to view or disregard files in a particular library.

I will assume you already know which file number(s) you wish to download. If you do not, you may want to select #2 (or #11) from the above menu, and look at the various files available. To abort the listing, hit your [BREAK] key. You will need the number of the file or files you wish to download. Armed with that information, select #6 from the Library menu and I will take you through a sample download from the short command prompt:

```
ST Library
```

You type 6 to tell GEnie you wish to download a file.

```
ST Library 6
```

With YMODEM and ZMODEM you can request up to 20 files to be downloaded with one request. Enter the file numbers or names separated by commas—example: 200,204,155. If you use host echo, make sure your host echo setting is set to YES on page 905, item 2.

```
Enter download request or <H>elp?7605,7604,7603
```

(up to 20 files)

```
BUNKERS.SND
PYTHON1.SND
MARCHO.SND
```

(you will recieve a list of files you requested)

```
Download these files? (<Y>modem/<Z>modem/<N>o)?
```

(Select "Y" for YMODEM BATCH, and "Z" for ZMODEM downloading)

```
1765 Blocks in 3 files.
```

This will tell you the TOTAL blocks in all files selected.

```
222 YMODEM 1-K Packets.
```

This will tell you the TOTAL YMODEM 1-K Packets

Be aware that YMODEM will appear to be slower than Xmodem but in reality it is only the Packet Counts that are slower. Notice the difference in Blocks and 1-K Packets. YMODEM has been tested repeatedly and proves to be a faster means of transmission.

```
File is ready. Start your YMODEM receive file.
```

Wait for this prompt to start your YMODEM transmission.

With *Flash*, one only needs to push his insert key then type DL YB to start YMODEM Batch. See your Manual for all the rest of your favorite terminal programs. I only mention how to start YMODEM from *Flash* due to NOT being able to find it in my manual myself. :-)

When your file download is complete, you will see a message like this one:

```
YMODEM: NORMAL TERMINATION
222 FRAMES PROCESSED
0 FRAMES RETRANSMITTED
0 TIMEOUTS
Download another file (Y/N)?n
```

Enter the prompt Y for more files or N when no more files are needed.

Possible Download Problems

Possible problems that may occur during downloading are generally related to conditions on your telephone lines. If you receive a lot of odd characters, or garbage across your screen, hang up and dial back into GEnie. If the problem persists, make sure your phone and modem equipment are in top working order. If you still have garbage, please call the GEnie Customer Service number, 1-800-638-9636, and report your troubles. Line noise will cause bad downloads, and incomplete file transfers.

Each terminal program also has a number of settings, which must be adjusted before you can download. Make sure your settings for transfers are (again, see your documentation for specific details for your program):

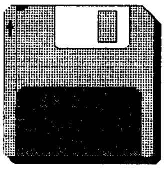
8 data bits, NO Parity, 1 Stop Bit.

Be sure your modem is set to FULL DUPLEX, and your software is set to HALF DUPLEX. If your settings are correct, and all else seems fine, but your downloads abort or give you incomplete files, it may be your GEnie Port. While you are online, (experiencing bad downloads) type "PORT" at any GEnie menu prompt, record *ALL* the numbers, and report the problem to GEnie.

Download Summary

1. Find your file, either through one of the many Software Library indexes, the #2 Directory Listing, through #3 Searches, or #4 Browse.
2. Select Download from the Software Library menu, #6.
3. Enter up to 20 file numbers separated with a comma (,) In Example : 7005,7006,7007
4. Wait for GEnie to tell you to go to receive mode.

5. Start your YMODEM/ZMODEM download/receive with your terminal program.
6. Wait until the file(s) is completed the transfer.
7. Press RETURN, and follow the next prompt to download additional files, or quit.



GEnie ST Libraries

Larry Duke (LARRY.D)

The GEnie ST Libraries, thanks to you, have become the cornerstone of Public Domain and Shareware file transfers in the 2,555 days of its life to date (June 2, 1993). The activity in the libraries continues to remain strong, with new files added daily.

How big is the library? It's HUGE! The library contains almost 1 BILLION bytes of information. There have been 28,939 files uploaded to the library. There are some 2,397 uploaders that share their hard work with the world through this medium. Downloads run an average of 910/day. The average file size is almost 50,000 bytes.

The most popular file remains the stalwart ARC.TTP, uploaded by MPMONTGOMERY. This file approaches 6,500 downloads at this writing. There are, however, many other files that are popular, including:

Most Popular Files

File#	FILENAME	Uploader
1271	ARC.TTP	MPMONTGOMERY
13310	ARC602ST.ARC	D.WAYRYNEN
16160	UNLZH172.ARC	J.HARRIS32
2637	PICSW7.ARC	JAKOB
3122	STINVDRS.ARC	D.K.F.
5148	SPSLIDE8.ARC	JKERSHNER
1558	MACNUDE.TNY	BOBR
4789	GALACTIC.ARC	J.FRADKIN
5357	DM__HINTS.ARC	D.FLORY
7193	FATSPEED.ARC	TRISTERO
19837	CPX.ARC	ATARIDEV
21893	ARCSHL31.ARC	C.F.JOHNSON
15393	PAULA.LZH	K.SHINABARGE
7259	ARCSH195.PRG	C.F.JOHNSON
5358	DMSPELLS.TXT	W.WAKEFIELD
5433	MONOWARE.PRG	D.MAULDIN
7379	ARC521FX.TTP	R.HEALD
6868	VDOS__INF.TXT	MCP.TECH01
7936	SEXY.ARC	S.MACMILLAN
4263	ACCESSOR.ARC	NHARRIS

Those wonderful people who spend hours online to upload files they have either created or obtained should be applauded for their exceptional unselfishness. With XMODEM uploading running around 100 CPS, you can see the time involved is astonishing. Here are two lists, one with people who have uploaded the most NUMBER of files, the second with the highest BYTE upload count:

High Upload Hall of Fame

Uploader	# Files	# Bytes
DARLAH	395	12,704,632
SANDY.W	360	21,906,684
LUCZAK	243	6,699,420
Z-NET	237	8,572,144
A.FASOLDT	182	5,551,288
SGUBER	182	3,678,576
OUTRIDER	173	9,718,872
TQUINN	170	11,695,744
GRMEYER	159	9,954,924
ISD	157	16,826,752
BANDBOX	126	5,297,040
D.HELMS	120	6,265,792
B.ZAWALSKI1	116	34,986,752
ZMAGAZINE	112	5,716,620
BAGET	108	3,698,752
INTERSECT	97	1,260,000
L.GRIGGS	92	8,648,520
E.KRIMEN	87	6,900,736
M.OVERGAARD	84	7,498,260
D.A.BRUMLEVE	82	4,277,572

High Byte Count Uploaders

Uploader	# Files	# Bytes
B.ZAWALSKI1	116	34,986,755
SANDY.W	360	21,906,684
ISD	157	16,826,752
J.ROY18	66	14,395,592
DARLAH	395	12,704,632
TQUINN	170	11,695,744
R.MONFORT1	49	11,055,424
GRMEYER	159	9,954,924
OUTRIDER	173	9,718,872
L.GRIGGS	92	8,648,520
Z-NET	237	8,572,144
BOB-BRODIE	19	8,500,524
M.OVERGAARD	84	7,498,260
E.KRIMEN	87	6,900,736
C.HERBORTH	74	6,864,480
LUCZAK	243	6,699,420
D.HELMS	120	6,265,792
M.DORMAN2	31	5,721,984
ZMAGAZINE	112	5,716,620
A.FASOLDT	182	5,551,288

My personal preference would be to list all of the 2,397 uploaders, with a special "Thank You" to each of them. Unfortunately, space does not allow this. Please accept this as a public announcement of our sincerest gratitude for your generosity.

Still, uploading is only half of the story. The downloaders, too, are cherished. There is no greater gratification for the uploaders than to have the files that they send to GEnie downloaded by the end users. To you, as well, please accept our sincerest appreciation.

New IAAD Members

by Lou Rocha

In the February 1993 column we met all the members of the Independent Association of Atari Developers. Since then a number of new developers have joined this unique association. Thanks to IAAD President D.A. Brumleve, I am pleased to present the newest members to you:

Judith Baumgardner[ANTHILL] Anthill Industries

John Buckner [J.BUCKNER] SuperSoft *TeleView Tele/TeleView BBS/D.A.M.I./The Fisherman*

Jim Collins [J.COLLINS22] chro_MAGIC Software *Innovations Guitaristics/Pianistics/Pianistics Encyclopedia/Pianistics Professor*

Frank Pawlowski [F.PAWLOWSKI] Straight Edge Software *FPPRINT/OutBurST!*

Tony Ridley [A.RIDLEY1] Canoe Computers *FrankenSTein/ Warp 16 Accelerator/Tiny Ram*

Around GEnie

by Lou Rocha

This month we venture into the Home Office and Small Business RoundTable run by Sysop Janet Attard. Located on Page 370, HOSB has been a boon to small businesses and those who need advice on new or prospective ventures. The opening message area advertises HOSB as a resource for owners of small and home-based businesses; men and women who want to start a business; employed individuals who realize information, management skills and contacts are the key to career advancement.

The HOSB RT offers information about starting and running a small or home-based business, including naming or incorporating your business, finding customers or dealing with venture capitalists. As most other RoundTables on GEnie, the HOSB contains a The Bulletin Board (BBS), RealTime Conference Rooms, and Electronic Libraries.

The HOSB bulletin board is the place to get the inside scoop on what it is really like to start and run a business. Messages in the HOSB Bulletin Board are grouped into topics within categories to make it easier to find subjects that interest you. The bulletin board now contains 33 categories with hundreds of subtopics covering a broad range of subjects. In it you'll find topics on income taxes, bookkeeping, contracts, copyrights, patents, consulting, marketing, industrial home businesses, job shopping (contract labor), financing and venture capital, getting merchant status, and health insurance.

The REAL-TIME CONFERENCE ROOMS are where we host formal and informal "live" conferences. These live conferences are like a combination of a call-in radio talk show and a conference phone call: anyone attending a conference can directly question anyone else who is in the conference room. Among the live conferences held recently were some on income taxes, copyright law, and personal organization.

The REFERENCE LIBRARIES contain thousands of files which include how-to information, shareware and freeware programs for business, templates, sample documents, electronic art, and transcripts of conferences with various experts.

The HOSB RT is staffed by many qualified business people lead by chief sysop Janet Attard, herself a writer and consultant in Attard Communication. Her staff includes many skilled people: Jeff Chasalow (JEFFCHASALOW) Computer programmer and consultant, EDP auditor, software developer; Joan Kumpitsch (NASS) Secretarial & Office Services (National Assoc. of Secretarial Services HOSB Representative); Paul Mayer (PAUL.MAYER) Software developer, payroll and business applications, past president Association of Shareware Professionals (ASP); James Peabody (JPEABODY) Mailing list management /US postal regulations /retired USPS division manager, mailing requirements; Kent Seitzinger (SEITZINGER) Attorney: specializing in insurance litigation, environmental (waste water/sewage) law, small business law; Jack Slick, Jr (JSLICK) CPA / specializing in small and medium-size business accounting and tax matters. Although the HOSB RT will become a pay area after July 1st, it will still be one of the best bargains on GEnie.

GEnie Sign Up

1. Set your communications software for half duplex (local echo), at 300, 1200 or 2400 baud.
2. Dial toll free 1-800-638-8369 (or in Canada 1-800-387-8330). Upon connection enter HHH.
3. At the U#=prompt, enter XTX99437,GENIE then press the [Return] key.
4. Have a major credit card ready. In the US you may also use your checking account number.

GEnie RTC:

July 14, 10 pm

CURRENT NOTES

ST Informer

Here's your opportunity to hear from the CN staff. Tell us what you would like to see in CN, after all, you're paying the bills. If you would like to direct questions to myself or any of the regular CN columnists ahead of time, just e-mail your question to me (JOE.WATERS) and I will see if we can't have an answer ready by the 14th! I look forward to interesting and informative evening!

Avoiding Those Hard Drive Crash "Blues"

Diamond Back II

A Hard Disk Back Up & Restore Utility

By Dana P. Jacobson

Most of us who own hard drives feel that the information contained on those drives is the most important thing surrounding our computer usage. We've spent a great deal of time setting up each partition just the way that we want it. These drives usually contain some very important information (documents, addresses and phone numbers, databases—you get the picture) that we depend upon almost every time we turn on our computers. Did you ever stop and think what it would be like if, all of the sudden, that information wasn't available, due to hard drive problems?

You can always replace a hard drive, but replacing that lost data, perhaps many megabytes of data, may take quite a long time to rebuild, if at all. Regardless of what we all wish, hard drives do not last forever. Nor do they always run flawlessly. Data can eventually be corrupted. Heck, you may even mistakenly delete or write over a valuable file with no means of getting it back! Whatever the potential problem, hard drive owners really need the means to protect themselves against any potential loss of data; and, if/when that occurs, have the means to restore their valuable information.

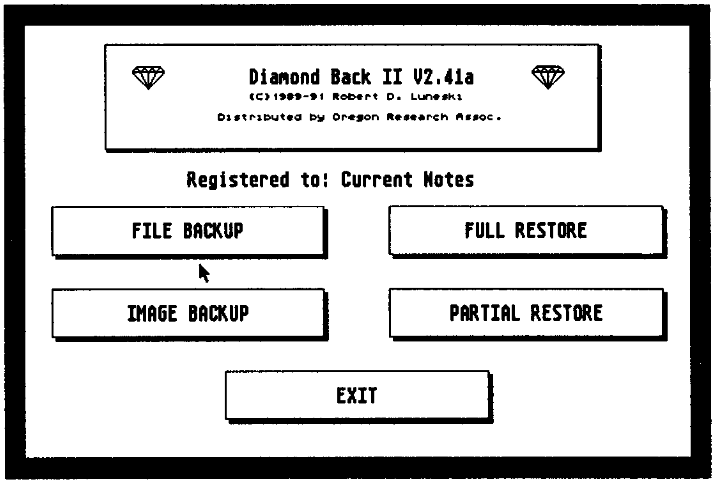
So, you may be asking, "What's the solution?" Well, for those of you who have been using Atari computers for quite some time, the answer is well-known to you (or should be). But, for those of you who aren't as experienced, you really do need a hard drive back up and restore utility.

Full Featured

Robert Luneski, and Oregon Research Associates, has such a utility, called *Diamond Back II* (latest version—2.41). *DB II* is a very complete back up and restore program that provides a true backup capability with a lot of flexibility and power. The options that I've encountered with *DB II* are superior to those of other disk-based backup utilities that I've used or seen. Table 1 shows features available with *DB II*.

Intuitively Useful

Diamond Back is very intuitive to use. Once you select the option to back up parts or the entire hard drive, you'll arrive at a backup options menu. It's here that you'll make the majority of your selections to determine how you want to manage your backup. You'll be able to select the backup path(s); view paths; select the disk utilities options (more on this later); do a full backup or an incremental one; include sub-directories or files only; split, compress, and/or encrypt files; format disks as you



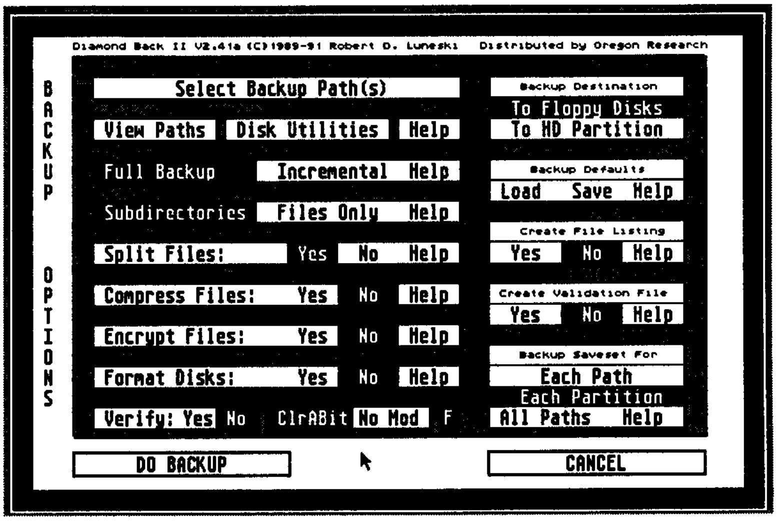
Diamond Back II V2.41a
(C)1989-91 Robert D. Luneski
Distributed by Oregon Research Assoc.

Registered to: Current Notes

Table 1. Diamond Back II Features

- Easy-to-use 100% GEM user interface with online help.
- Back up/Restore any number of hard drive partitions, directory paths, single directories, or specific files in a single pass.
- Flexible creation of backup sets from different paths or partitions.
- Wildcard masks to include or exclude files may be different for each path.
- Incremental backups by date/time or archive bit (w/ TOS 1.4).
- Load/Save custom backup configurations.
- Pre-formatted disks do not have to be the same type.
- File compression and encryption are available.
- Disk usage estimation, disk statistics, and assorted disk utilities.
- Back up to floppies or other hard drive partitions.
- Flexible disk-formatting options.
- Automatic drive-switching during all program functions.
- Very flexible full or partial restore options.
- Restore original directory tree or specify a new structure.
- Create file listings during the backup or from floppy disks or selected paths.
- Create CRC validation logs integrated into backup and restore or from hard disk or floppy files.
- Extremely fast.
- Back up and restore Spectre partitions.
- Full support for high density 1.44+ meg floppies.
- Intelligent image backup that only backs up sectors that contain data and restore images to different size partitions.
- Incredibly fast hard disk to hard disk copies.
- State-of-the-art file compression speed.

progress; verify; back up to floppies or to another hard drive partition; choose backup defaults; create file listings; create a validation file; and save the backup save set. Each of these options includes a help option for a quick description of what you're seeking to do.



For those of you who are fairly new at this, let's briefly explain what the above options mean.

Selecting *backup paths* is asking you to decide which hard drive partition(s) you wish to back up, including any folders or other files. You can select them all, or just those that you wish, for each partition chosen. The *view paths* option displays all that you have selected.

Selecting a *full backup* backs up all of those files that you've designated. You can also back up files using the *incremental mode*, which means that you'll only do those files on your hard drive that have changed since your last backup. Incremental backups offer two choices: by archive bit and by date/time. If you intend to rely on mostly incremental backups, I'd suggest that you read the manual closely for details.

Choosing *sub-directories* (folders) *or files only*, is very important. How you set this up determines if folders "under" the selected path are included. If you have folders within folders, you're going to most likely include those in your backup.

File Save Options

There are three ways for you to have your files saved to disk when backing up your hard drive: split files, compress files, and encrypt files. *Splitting files* allows the program to split a file (usually an extremely large file) between two disks because there isn't enough room on the current disk. This takes advantage of all available disk space and is recommended.

The option to *compress files* means that the backup files are compressed, similar to archiving them (ARC or LZH), but faster. Using the compressed option allows you to use less disk space or number of floppies to complete your task. The drawback is that you cannot use these files until you restore them (uncompress them). By selecting no compression, you can use a file from a backup disk without having to do anything to the file.

Selecting *file encryption* adds security to your backup by requiring a case-sensitive password to be able to restore your files.

Selecting the *format disks* option allows you to use unformatted disks, or to format disks in a particular way. Various options are included when you've selected this option.

Selecting where you want the backup to go is important. You can "send" the backup to a spare hard drive partition, especially if you have a hard drive with a lot of available free space; or you can back up to floppy disks.

You can create your own *backup defaults*, or use ones from previous sessions. You can also save your defaults as you want.

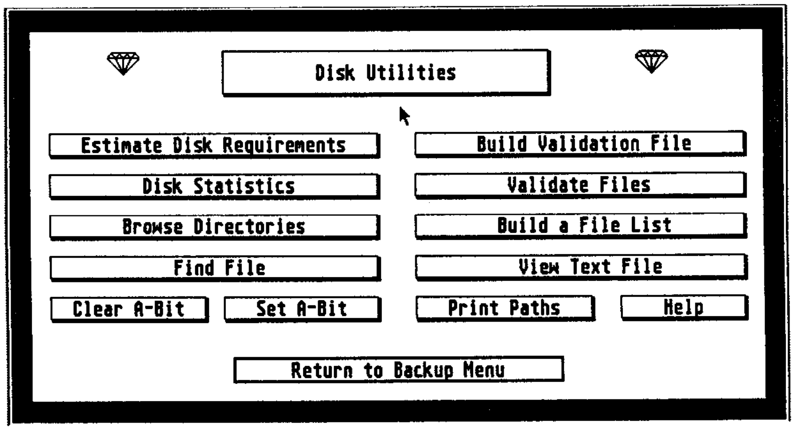
Creating a *file listing* can be extremely useful. By doing so, you'll essentially create a catalog of your backup, which will include all the information of the program options selected, paths, and file information.

Disk Utilities

The *disk utilities* option allows you to take advantage of a number of useful utilities. You can find out an estimated number of disks (or hard drive space) required to do the backup; get disk statistics; browse directories; build a validation file (and validate files); build a file list; locate a file; view a text file; clear, or set the A-Bit; print paths; and a help file. I suggest that, once you've set up everything the way you want to do a backup, prior to hitting that "do backup" button, you view your paths one last time to make sure you have selected everything that you want. Once you're ready, click on that button! You'll get a dialog box telling you to insert your first disk (assuming you're going to floppies). You have the option to use Drive A or Drive B, or both. Once you've started, you're on your way to guarding against hard drive failure.

Restoring Your Files

Doing a Restore is pretty much the same as backing up, only in reverse. Assuming that you've done a GEM file backup, you have a choice of doing a full or partial restore. For the sake of argument, let's do a full restore. You select the



hard drive partition to which you wish to restore your backup. Then, you define the type of backup originally done; whether or not the files are compressed and if they're encrypted; choose to validate the restored files or not; and whether or not to overwrite an existing file, skip it, or prompt by asking. Then all you do is choose to do the restore, or cancel. You can also do partial restores, to multiple partitions.

Diamond Back II is not copy-protected, although you have to go through a registration/install routine initially. You can copy the files to your hard drive. The program and resource files take up about 180k of disk space. It's recommended that you have TOS 1.4 or higher to run the program, but TOS 1.0 or 1.2 users can use the program (with FOLDRXXX.PRG in your AUTO folder).

After using *Diamond Back II* for about a month, I'm impressed with it. It's basic, but filled with useful options to get the most out of the backup that you want to do. The program is easy to use, almost self-explanatory. The manual takes you through the program step-by-step, and explains each step very carefully. It's very concise—in contrast to many other manuals. I recommend *Diamond Back* highly, even if you already own another backup utility, commercial or public domain.

[Oregon Research Associates, 16200 SW Pacific Highway, Suite 162, Tigard, OR 97224. Phone: (503) 620-4919; Fax (503) 639-6182.]

CN PD Cartridges

44MB Removable Syquest Cartridges

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Cart No. 3: (CN #460–#554)
Cart No. 4: (CN #555–#639)
Cart No. 5: Desktop Publishing
Cart No. 6: (CN #640–#709)
Cart No. 7: (CN #710–#782)

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+$3 Shipping & Handling

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ST Atari Informer

ST Hard Disk Toolkit

by Dale Paulus

Having been in the Atari world since days of the 2600, and subsequently acquiring an ST in 1985, I've managed to collect more files than you could shake a stick at. Most of them ended up on my hard drive. After awhile, files tended to get chopped up throughout the partition and the drive performance slowed down. The textbook solution is to optimize the drive, that is, to defragment all the files and rewrite them into an orderly fashion. I needed, therefore, an optimization program. Before optimizing, however, I knew I should back up the drive. What backup software to get? Another need is to find a means of reviewing or editing specific hard drive sectors, especially in the event of file corruption or data loss. A sector editor is always handy for these and many other purposes, but which to get? I solved all these problems when I decided to check out Michtron's *ST Hard Disk Toolkit*, Version 2.2.

First Look

When I opened the box, I found a non-copy protected disk, manual and registration card. Although the manual is printed on letter-size paper folded in half, it contains clear explanations of all items in the drop-down menus. The program is hard drive installable and runs in medium or high resolution. (Ed note: it will also run in TT resolutions and is compatible with many enhanced resolution graphics boards).

The *ST Hard Disk Toolkit's* interface is both intuitive and user friendly, being divided into very concise menus with powerful functions. No special knowledge of hard drive function is required to use the utility, although, for best results, a quick reading of the manual is important. If you're one of those folks who likes to jump in and test the waters immediately after loading the software, the program lends itself well to that type of use as well. Drop-down menus control all functions, and we'll review them individually by grouping.

File

Under the File menu you can find the partition size, number of megabytes used, and the amount of free space in both megabytes and as a percentage of the total. You can also list all files in the partition and show their pathnames, size and modification date. Double clicking on a filename will graphically show where the file is stored on the drive. You can also print the pathname, size, and modification dates of the files.

Under the Initialize Floppy selection, a disk can be zeroed or formatted (including the option of using a twister format under TOS 1.2 or greater). The formatting options are 40 tracks (180, 400, 360, 400KB) or 80 tracks (360, 400, 720, 800KB). You can also display file contents and copy complete directories. A media change is forced automatically when the copy process is done to update the windows.

Backup and Restore

Backup and Restore options are also available. There are three different methods of backup to choose from; DOS, TAR and CMP-IMAGE. With DOS and TAR you can do a full or incremental backup or backup by date. The TAR backup options are the same as DOS except they use a faster format. Under both options you also have the option to back up particular paths or the full partition. The full backup will copy all files and, if your system has TOS 1.4 or higher, it will set the archive bit. A history file is also written in the root directory of the drive selected, telling what files have been backed up. The Incremental Backup is the same as Full Backup except the only files backed up are those whose archive bits have been changed. The CMP-IMAGE option creates an image copy of clusters and, although it is the fastest method of the three, it is not possible to individually restore files. You can also List and Print the history file that was written to the root directory.

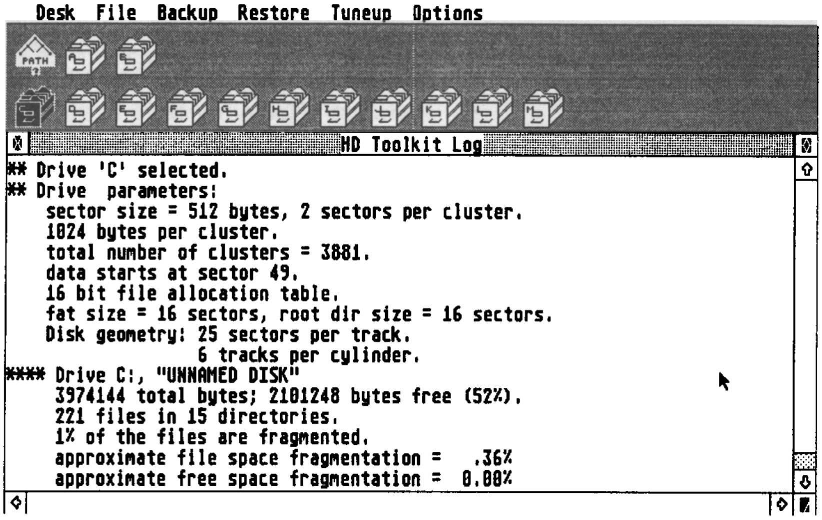
Tuneup

The Tuneup menu (can you say optimization? (grin)) allows you to make the files and directories contiguous and lets you select whether to put the free space at the beginning or the end of the partition. Under the Tuneup selections you can also choose to Optimize for Reading or Optimize for Writing, putting the free space, respectively, at the end or the beginning of the partition. If free space is at the end of the drive, the drive will read existing files faster (closer to the beginning) and write a little slower (more travel to get to free space). The opposite applies, as well. In either case, an optimized hard drive's performance is greatly improved over one that is badly fragmented.

When you use the Describe Disk selection, you'll get the basic setup of the partition, number of clusters, size of the FAT tables, root directory and such.

Under Disk Statistics you'll see the file and free space usage and the percentage of fragmentation of free space.

Check Drive Structure uses a basic file system consistency checker; and, if any errors are found, you have a choice of printing them, listing them to the screen, ignoring them or allowing the program to fix them. Any lost clusters found are put into files on the root directory and the FAT tables are compared and corrected. You can also check the file structure on all



```
** Drive 'C' selected.
** Drive  parameters:
   sector size = 512 bytes, 2 sectors per cluster.
   1024 bytes per cluster.
   total number of clusters = 3881.
   data starts at sector 49.
   16 bit file allocation table.
   fat size = 16 sectors, root dir size = 16 sectors.
   Disk geometry: 25 sectors per track.
                  6 tracks per cylinder.
**** Drive C:, "UNNAMED DISK"
    3974144 total bytes; 2101248 bytes free (52%).
    221 files in 15 directories.
    1% of the files are fragmented.
    approximate file space fragmentation =   .36%
    approximate free space fragmentation =  0.00%
```

drives with the Check All Drives selection.

There is also a Sector Editor that has the usual selections and a "Follow" key that will take the editor to the next sector called for. For example, if you were in a root directory sector and pressed "Follow," the editor would then display the first sector of the file that was pointed at in the directory entry.

Options

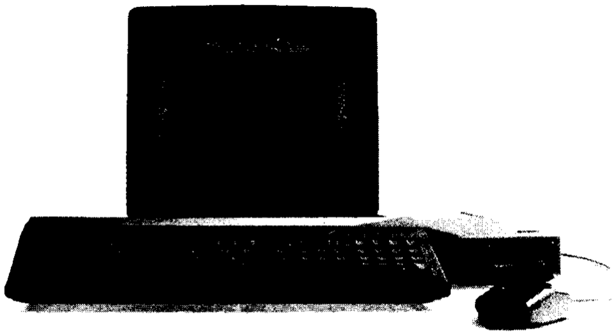
There is an abundance of options that can be set to "tune" the program to your specific requirements. You can set the default values for the Format and Zero Floppies selections, whether to sort by filename or not, to copy hidden files or to skip system files. You can also choose whether to overwrite files, split files or to update the history files when doing backups. Last, but not least, you also have the option to set backup and system verifies writes.

Summary

This program is very smooth and I had only one problem when using it. I use *Data Diet* (by Trace Technologies) on my hard drive to increase the amount of information I can store on the hard drive. I've had problems in the past with other utility programs when attempting to back up the partition that holds *Data Diet's* working directory, so I don't attribute this problem to the *ST Hard Disk ToolKit*. My other ten partitions worked wonderfully.

The value of an optimizer and backup program for any hard drive owner is immeasurable. They are almost mandatory to have. Why spend money for individual programs when they're already available in a single package, Michtron's *ST Hard Disk Toolkit*? I highly recommend it for all hard drive owners.

[ST HARD DISK Toolkit Version 2.2 by Michtron, 3201 Drummond Plaza, Newark, DE 19711. Phone (302)454-7946.]



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MultiWriter

Another–WRITER Comes to Town

Review by Sam Van Wyck

It's always pleasant when an old friend comes to visit and that pleasure is in no way diminished when the Old Friend happens to be a computer program. The name *MultiWriter* may not ring many bells but an entire generation of ST users have been familiar with one of the earlier versions. Can there be anyone who has never heard of *ST Writer* or its later incarnation, *ST Writer Elite* or encountered the program on a public domain disk?

Today's version of *ST Writer* is now *MultiWriter*. No longer the PD freebie, it comes with an elaborate spiral-bound manual, a respectable price tag and will work with any 16-bit Atari in any mode or resolution you can think of *including the new Falcon030 running with MultiTOS*. Unfortunately, since I do not have a new Falcon030 or MultiTOS, I could not test this critical new feature. *ST Writer* always has been a versatile and friendly word processor and the new version, name, and capabilities have done nothing to diminish this.

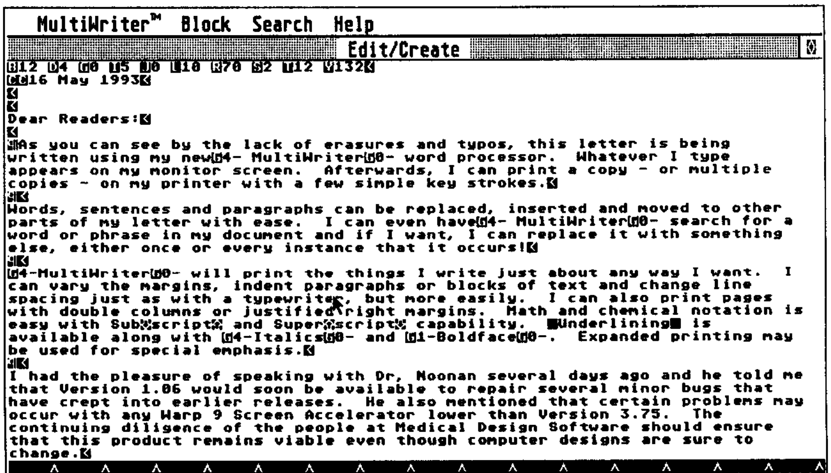
What's in the Package? In case the reader is a newcomer to the Atari scene, a short listing of the available features of this utility indicate its versatility: Headers/Footers, Alternate ASCII characters, Block Right, Center Text, Chained Files, Clipboard (if avail.), Comment Line (no print), Deadkey, Disk Management, Text Duplication, Page Numbering, Command Help Screen, Insert/Typeover Modes, Justify, File Merge, Text Move, Print Spooler, Print Preview, Search & Replace, Outline Form, Sub/Superscript, Tabs, Two-Column Print, Speaks English, French, Spanish, Supports PICA, Elite, Condensed, Elongated, Italics, Bold, Underline, draft and LQ printer output.

It's Still Easy to Use. One of the best features of the *ST/MultiWriter* family is ease of use. By comparison, other word processors may seem clumsy or argumentative at first. Consider the command structure. Learning how to produce a finished document can be terribly frustrating if the basic commands are not logically chosen. Here, however, wherever possible the most logical mnemonically related combination has been chosen. For instance, to set page margins, Right is [Control] [R] (Number of spaces); Left is [Control] [L] (Number); Top or bottom: [Control] [T] or [B] (Number). To center a line, try [Control] [C] or [Control] [C] [C] to block the line to the right. To begin a paragraph with space and indent: [Control] [P]. (Note: keyboard keys are shown in brackets, i.e. the letter "L" key is shown as [L].)

Just for comparison, try learning the *Wordperfect* equivalent of the same commands: Margin set is [Shift] [F8], [3], (Numbers); Center text: [Shift] [F6]; Print: [Shift] [F7], [1]. In *MultiWriter*, one prints by simply popping out to the main menu and hitting [P] [RETURN]. Which is not to say that there is absolutely nothing to learn in *MultiWriter*. There is, of course, but memorization is kept to a minimum. Life is easier when Save is [S], Load is [L], Edit is [E], Format is [F] and knocking off for the night is [Q] for Quit.

On the negative side, the choice of print style is complicated and time consuming. Pica, Condensed or Elite type require the sequence [Control] [G] n [-] to begin the change and [Control] [G] [0] [-] to return it to the default. Fortunately, for most users, such changes are not often required. Changing to Bold, Italics or Underline modes, however, requires a similar sequence and most certainly is a bother. Compared to [F3] to start Italics and [F3] to stop in *Wordperfect*, the need to remember [Control] [G] [4] [-] to begin and [Control] [G] [0] [-] to end is quite clumsy. Interestingly, the Underline is turned on and off, quite simply, with the [F3] key.

MultiWriter Is an Excellent Basic Word Processor. For many Atari users, *ST Writer* was the only word processor to use. It was cheap and performed both consistently and well, and at one time was included with every new computer sold. Through a number of revisions, it has managed to keep up with the ever changing Atari platform while retaining its basic good nature. Those of us who eventually went on to use other programs usually did so because additional features were needed. My change came when I had to write a long research paper having a multitude of footnotes. At each revision, restructuring the footnote



```
B12 D4 G0 I5 J0 L10 R70 S2 T12 Y132
16 May 1993


Dear Readers:

As you can see by the lack of erasures and typos, this letter is being
written using my new 4- MultiWriter 0- word processor.  Whatever I type
appears on my monitor screen.  Afterwards, I can print a copy - or multiple
copies - on my printer with a few simple key strokes.

Words, sentences and paragraphs can be replaced, inserted and moved to other
parts of my letter with ease.  I can even have 4- MultiWriter 0- search for a
word or phrase in my document and if I want, I can replace it with something
else, either once or every instance that it occurs!

4-MultiWriter 0- will print the things I write just about any way I want.  I
can vary the margins, indent paragraphs or blocks of text and change line
spacing just as with a typewriter, but more easily.  I can also print pages
with double columns or justified right margins.  Math and chemical notation is
easy with Sub script and Super script capability.  Underlining is
available along with 4-Italics 0- and 1-Boldface 0-.  Expanded printing may
be used for special emphasis.

I had the pleasure of speaking with Dr, Noonan several days ago and he told me
that Version 1.06 would soon be available to repair several minor bugs that
have crept into earlier releases.  He also mentioned that certain problems may
occur with any Warp 9 Screen Accelerator lower than Version 3.75.  The
continuing diligence of the people at Medical Design Software should ensure
that this product remains viable even though computer designs are sure to
change.
Free:   195401            Line:   1 Column:   1
Press ESC to return to menu.
```

The tutorial letter on the edit page. Small type size is shown.

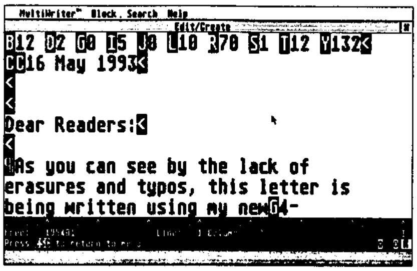
and page sequencing manually can only be described as grim. Ultimately, I wound up with *Wordperfect* because its handling of footnote to page text relationships was automatic, as was the revision of footnote numbering. In those days, the cost of the additional bells and whistles was about $150 compared to four bucks for the latest PD issue of *ST Writer*; further, the changeover was painful!

One useful feature of *MultiWriter* is its Print-To-Screen capability which, incidentally, operates in a far simpler manner than that of *Wordperfect*. A page of text can be shown almost as it will appear on paper. Sub and superscripts do not appear, however, nor does expanded/condensed text.

MultiWriter has the ability to display three sizes of type on screen. Small type gives the standard 80 column format. Middle size type allows viewing 79 columns but the letters are about three times as large; a boon for those who might be having trouble seeing clearly. Large size type reduces the screen to forty columns and provides letters about 3/16" wide and 1/2" high; great for displaying messages or announcements! Also, persons whose sight is impaired may find that the largest type format allows them to see and understand what before had merely been a blur.

The Import/Export Business. If there is one feature of *MultiWriter* that stands head and shoulders above the competition, it is the ability to import and export files in the formats common to other word processors. An author is always tempted to sample the work of others (always being careful, of course, to insert the proper attribution) but while it may be easy to, shall we say, *borrow* an idea or two, grabbing the goodies in print isn't.

Wordperfect has a "Text In/Out" function that serves to get foreign files on screen but, at times, the mess is so horrendous that it causes the program to crash. In the process of writing and editing this review, files have been swapped back and forth between *MultiWriter* and *Wordperfect* several times. Each time, the document appears in its proper form with every attribute correct, even down to Italics, Underline and Boldface. The program will handle *First Word* and *Wordwriter ST* with the same ease.



```
B12 D2 G0 I5 J0 L10 R70 S1 T12 Y132<
CC16 May 1993<
<

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Dear Readers:<
<

¶As you can see by the lack of
erasures and typos, this letter is
being written using my new64-
```

The large type size is excellent for people with severe sight loss.

The Future of MultiWriter. Dr. Bruce Noonan, the author of this excellent program, has finally decided to go commercial with the product. To this, I can only say, "It's about time!" For years, revised and improved editions have been available for the price of a disk or download. An incredible amount of hard work has, obviously, gone into making *MultiWriter* what it is today. It is to be hoped that he and his collaborators at Medical Designs Software will receive sufficient sales incentive to warrant continuing the project.

To this end, they have added a wire-bound manual to the package. Similar in many respects to the original, on-disk text manual, it, nonetheless, is far more compact, complete and easy to use. It is written in two sections, the first being an introduction to word processing and a tutorial containing a practice letter. In place of a Table of Contents or Index, the second half is an alphabetized listing of every subject touching on the operation of the program. Together, they comprise more than 70 well-written and printed pages. A quick reference card is also supplied.

The Grumble Strip. At first, the process of saving the work on the Edit screen seemed needlessly cumbersome. When I discussed this with Dr. Noonan, he showed me that a simpler method existed and, indeed, this is discussed in the book. Note to self: READ the book! Note to users: READ the book. Just because it seems simple doesn't mean that there isn't a better way! In this case, saving one's work in progress is a matter of two mouse clicks: one on the ESCAPE button in the lower left screen and one on SAVE in the drop-down menu. I might suggest the addition of a keystroke to facilitate the SAVE since the writer will be using the keyboard most of the time.

The number of items covered in the manual is not so great that the lack of a table of contents or index makes life impossible, but it would save numerous small increments of time and frustration. Earlier versions of the disk-based instructions had one, and also featured a little strip that could be printed and placed over the Function Keys to identify them.

A serious incompatibility between my system and *MultiWriter* led to several crashes before Dr. Noonan came to the rescue. Apparently, some versions of *Warp 9* Software Accelerator can be incompatible with the program. My version 3.61 must be deactivated before everything will work smoothly. Dr. Noonan's v. 3.75 has corrected the problem.

Neither a spellchecker nor thesaurus is included, although these may be added by combining with other programs such as *Thunder!* or *Spelling Sentry*. Support is provided for Epson printers and compatibles. Other printers may be used by creating a one-time configuration file with the necessary control codes. This file is then read during bootup.

MultiWriter is the brainchild of Dr. Bruce Noonan who is almost a neighbor, living about fifty miles down the road from Spokane. Until 1 August 1993, Medical Designs Software may be contacted at 1334 South Division, Apt. B2, Moses Lake, WA 98837. After that date, the street address will change to 4727 Bluff Drive, Moses Lake, WA 98837. (Note that this is a change from the previous Edmonds, WA address.)

The price is listed at $70.00 although this figure will undoubtedly be subject to discounts by the various dealers. Comments and corrections are invited by the reviewer who may be contacted via GEnie: S.VANWYCK1.

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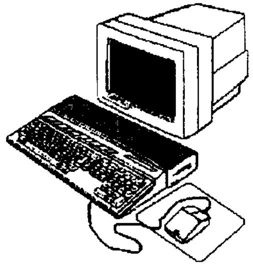

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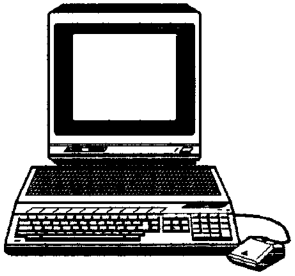

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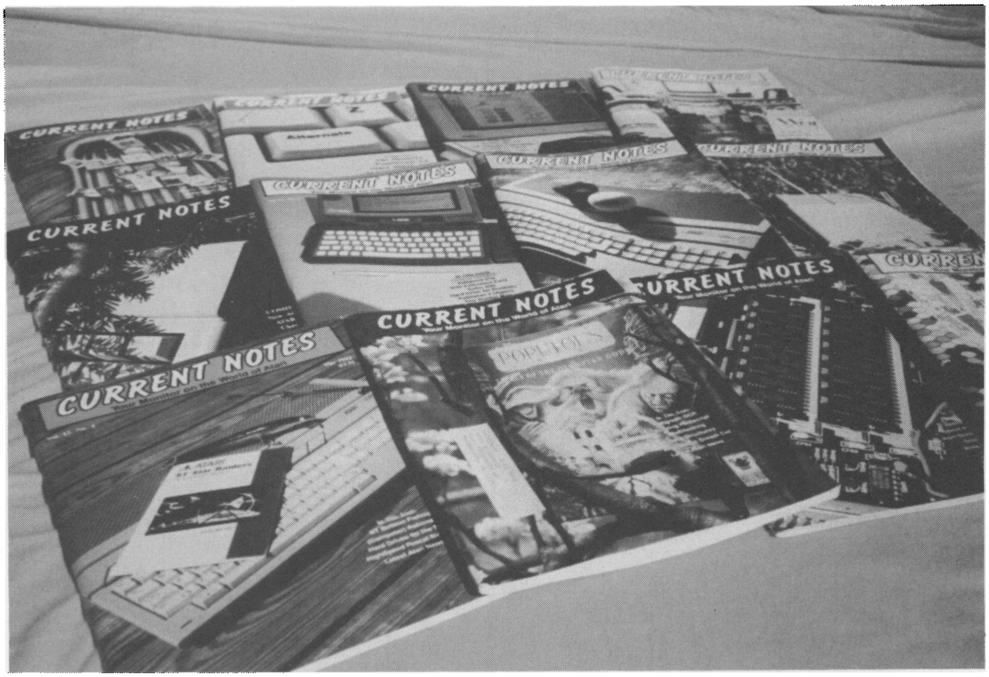

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486

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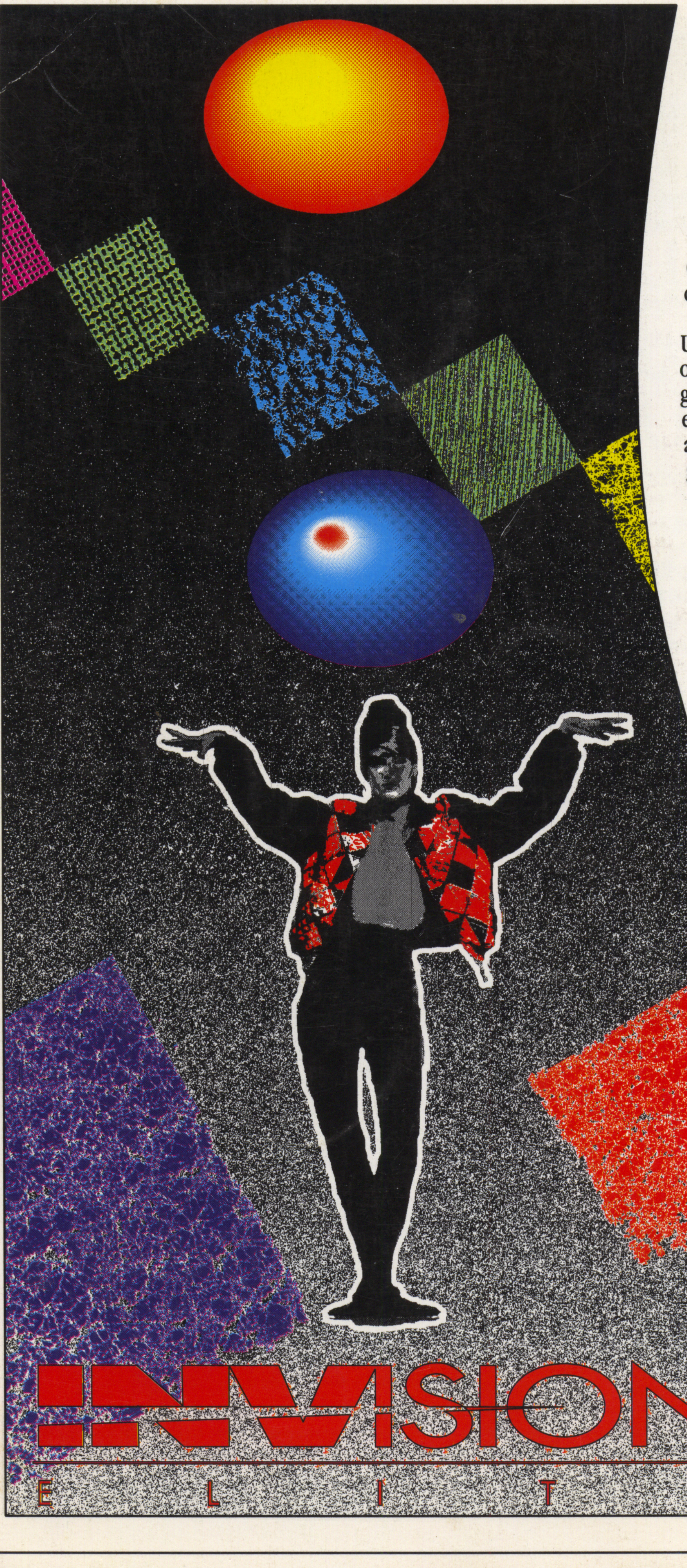

DMC Publishing is proud to announce the release of INVISION Elite 2.0. INVISION Elite has many features which make it an indispensable tool to anyone serious about creativity and irresistible to anyone who likes to enjoy themselves while working.

INVISION Elite allows you to create Color, Greyscale and Black & White images. Stretch! Skew! Bend! Copy! Thin! Thicken! Rotate! Outline! Anything! If you can think of it, chances are INVISION Elite can do it.

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The suggested retail price is US $149.95, CDN. $189.95.

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An INVISION Elite demo version is available for downloading from GEnie and Compuserve. INVISION Elite is a welcome addition to any graphic workstation.

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